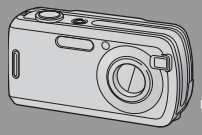
SONY

Cyber-shot

Digital Still Camera

User's Guide/ Troubleshooting



DSC-S600

MEMORY STICK ™



"Read This First" (separate volume)

Explains the set-up and basic operations for shooting/playback with your camera.

Operating Instructions

Before operating the unit, please read this manual and "Read This First" (separate volume) thoroughly, and retain them for future reference.

Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. DSC-S600

Serial No. _____

Enjoying the camera

Using the menu

Using the Setup screen

Using your computer

Printing still images

Troubleshooting

Others

Index

Additional information on this product and answers to frequently asked questions can be found at our Customer Support Website.

http://www.sony.net/

Printed on 100% recycled paper using VOC (Volatile Organic Compound)-free vegetable oil based ink.

Printed in China

2658425110

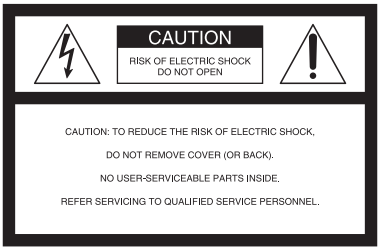
© 2006 Sony Corporation

2-658-425-**11**(1)

WARNING

To reduce fire or shock hazard, do not expose the unit to rain or moisture.

For Customers in the U.S.A.





This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

If you have any questions about this product, you may call:

Sony Customer Information Services Center
1-800-222-SONY (7669)

The number below is for the FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name: SONY

Model No.: DSC-S600

Responsible Party: Sony Electronics Inc.

Address: 16450 W. Bernardo Dr,
San Diego, CA 92127 U.S.A.

Telephone No.: 858-942-2230

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For Customers in Europe

This product has been tested and found compliant with the limits set out in the EMC Directive for using connection cables shorter than 3 meters (9.8 feet).

Attention

The electromagnetic fields at the specific frequencies may influence the picture and sound of this camera.

Notice

If static electricity or electromagnetism causes data transfer to discontinue midway (fail), restart the application or disconnect and connect the communication cable (USB, etc.) again.

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)



This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

Notes on using your camera

Types of “Memory Stick” that can be used (not supplied)

The IC recording medium used by this camera is a “Memory Stick Duo”. There are two types of “Memory Stick”.

“Memory Stick Duo”: you can use a “Memory Stick Duo” with your camera.



“Memory Stick”: you cannot use a “Memory Stick” with your camera.

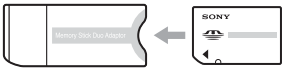


Other memory cards cannot be used.

- For details on “Memory Stick Duo”, see page 90.

When using a “Memory Stick Duo” with “Memory Stick” compatible equipment

You can use the “Memory Stick Duo” by inserting it into the Memory Stick Duo Adaptor (not supplied).



Memory Stick Duo Adaptor

Carl Zeiss lens

This camera is equipped with a Carl Zeiss lens which is capable of reproducing sharp images with excellent contrast.
The lens for this camera has been produced under a quality assurance system certified by Carl Zeiss in accordance with the quality standards of Carl Zeiss in Germany.

No compensation for contents of the recording

- The contents of the recording cannot be compensated for if recording or playback is not possible due to a malfunction of your camera or recording media, etc.

Internal memory and “Memory Stick Duo” back up

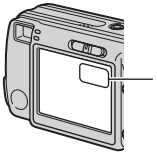
- If you turn off the power or open the battery cover or “Memory Stick Duo” cover, etc. during the access lamp is lit, the data in the internal memory or “Memory Stick Duo” may be corrupted. Be sure to back up the data to avoid the potential risk of data loss. See pages 22 and 55 on how to back up the data.

Notes on recording/playback

- This camera is neither dust-proof, nor splash-proof, nor water-proof. Read “Precautions” (page 94) before operating the camera.
- Before you record one-time events, make a trial recording to make sure that the camera is working correctly.
- Be careful not to get the camera wet. Water entering the inside of the camera may cause malfunctions which in some cases may not be repairable.
- Do not aim the camera at the sun or other bright light. This may cause irrecoverable damage to your eyes. Or it may cause the malfunction of your camera.
- Do not use the camera near a location that generates strong radio waves or emits radiation, or a location with a strong magnetic field. The camera may not be able to record or play back properly.
- Using the camera in sandy or dusty locations may cause malfunctions.
- If moisture condensation occurs, remove it before using the camera (page 94).
- Do not shake or strike the camera. In addition to malfunctions and an inability to record images, this may render the recording medium unusable, or cause image data breakdown, damage or loss.
- Clean the flash surface before use. The heat of flash emission may cause dirt on the flash surface to become discolored or to stick to the flash surface, resulting in insufficient light emission.

Notes on the LCD screen, LCD finder (for models with an LCD finder) and lens

- The LCD screen and the LCD finder are manufactured using extremely high-precision technology so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue or green in color) that constantly appear on the LCD screen and the LCD finder. These points are normal in the manufacturing process and do not affect the recording in any way.



- Exposing the LCD screen, the finder or the lens to direct sunlight for long periods may cause malfunctions. Be careful when placing the camera near a window or outdoors.
- Do not press against the LCD screen. The screen may be discolored and that may cause a malfunction.
- Images may trail across on the LCD screen in a cold location. This is not a malfunction.
- This camera is equipped with a power zoom lens. Be careful not to bump the lens, and be careful not to apply force to it.

On image data compatibility

- This camera conforms with DCF (Design rule for Camera File system) universal standard established by JEITA (Japan Electronics and Information Technology Industries Association).
- Playback of images recorded with your camera on other equipment and playback of images recorded or edited with other equipment on your camera are not guaranteed.

Warning on copyright

Television programs, films, videotapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provisions of the copyright laws.

The pictures used in this manual

The photographs used as examples of pictures in this manual are reproduced images, and are not actual images shot using this camera.

For full use of the digital still camera

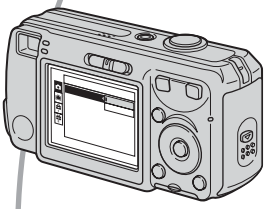
Prepare the camera and shoot images easily



"Read This First" (separate volume)

1 *Prepare the batteries*
2 *Turn the camera on/set the clock*
3 *Insert a "Memory Stick Duo" (not supplied)*
4 *Select the image size for use*
5 *Shoot images easily (Auto adjustment mode)*
Shoot still images (Scene Selection)
6 *View/delete images*

Get more friendly with your camera ***This manual***



- Shoot with your favorite settings (Program auto shooting) → page 24
- Enjoy various shooting/playback using the menu → page 26
- Change the default settings → page 42

Connect your camera to a PC or a printer ***This manual***



- Copy your images to a computer and enjoy editing them in various ways → page 52
- Print images by connecting your camera directly to a printer (PictBridge compliant printers only) → page 69

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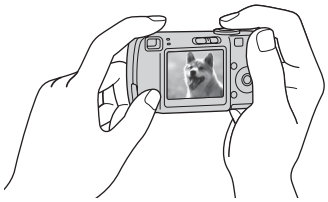
On the "Memory Stick" 90
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Basic techniques for better images

Focus ***Exposure*** ***Color*** ***Quality***



This section describes the basics so you can enjoy your camera. It tells you how to use various camera functions such as the mode switch (page 24), the menus (page 26), and so on.

Focus *Focusing on a subject successfully*

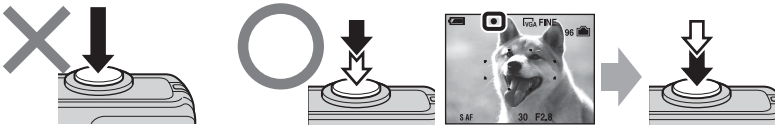
When you press the shutter button halfway down, the camera adjusts the focus automatically (Auto Focus). Remember to press the shutter button only halfway down.

Press the shutter button fully down straight away.

Press the shutter button halfway down.

AE/AF lock
Flashing ➡ lit/beeps

Then press the shutter button fully down.



To shoot a still image difficult to focus on → (Focus) (page 29)
If the image looks blurred even after focusing, it may be because of camera shake. → See "Hints for preventing blur" (as follows).

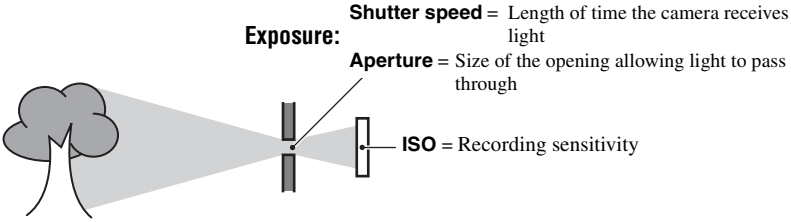
Hints for preventing blur

Hold the camera steadily, keeping your arms at your side. Also, you can stabilize the camera by leaning against a tree or a building beside you. Using a tripod, and using the flash in dark places are also recommended.



Exposure *Adjusting the light intensity*

You can create various images by adjusting the exposure and the ISO sensitivity. Exposure is the amount of light that the camera will receive when you release the shutter.





Overexposure
= too much light
Whitish image



Correct exposure



Underexposure
= too little light
Darker image

The exposure is automatically set to the proper value in the auto adjustment mode. However, you can adjust it manually using the functions below.

EV:
Allows you to adjust the exposure that has been determined by the camera.
→ page 28

Metering Mode:
Allows you to change the part of the subject to be measured to determine the exposure. → *step 5 in "Read This First"*

Adjusting the ISO sensitivity

ISO is unit of measurement (sensitivity), estimating how much light an image pickup device (equivalent to photo films) receives. Even when the exposure is the same, images differ depending on the ISO sensitivity.
To adjust the ISO sensitivity → page 31



High ISO sensitivity
Records a bright image even when shooting in a dark location.
However, the image tends to become noisy.

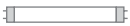


Low ISO sensitivity
Records a smoother image.
However, the image may become darker when the exposure is not sufficient.

Color — *On the effects of lighting*

The apparent color of the subject is affected by the lighting conditions.

Example: The color of an image affected by light sources

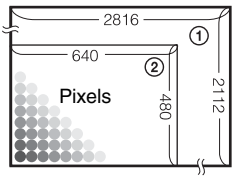
Weather/lighting	Daylight	Cloudy	Fluorescent	Incandescent
				
Characteristics of light	White (standard)	Bluish	Blue-tinged	Reddish

The color tones are adjusted automatically in the auto adjustment mode.
However, you can adjust color tones manually with [White Bal] (page 30).

Quality — *On "image quality" and "image size"*

A digital image is made up of a collection of small dots called pixels.
If it contains a large number of pixels, the picture becomes large, it takes up more memory, and the image is displayed in fine detail. "Image size" is shown by the number of pixels. Although you cannot see the differences on the screen of the camera, the fine detail and data processing time differ when the image is printed or displayed on a computer screen.

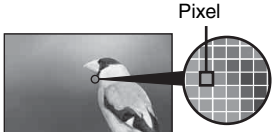
Description of the pixels and the image size



① Image size: 6M
2816 pixels × 2112 pixels = 5,947,392 pixels

② Image size: VGA(E-Mail)
640 pixels × 480 pixels = 307,200 pixels

Selecting the image size for use (→ *step 4 in "Read This First"*)



Many pixels (Fine image quality and large file size) → Example: Printing in up to A4 size

Few pixels (Rough image quality but small file size) → Example: An attached image to be sent by e-mail

The default settings are marked with ✓.

	Image size		Usage guidelines
✓	6M (2816×2112)	Larger	For printing in A4 size or high density images in A5 size
	3:2* (2816×1872)		
	3M (2048×1536)		
	2M (1632×1224)		For printing in postcard size
	VGA(E-Mail) (640×480)	Smaller	For recording a large number of images For attaching images to e-mail or creating web pages
	16:9(HDTV)** (1920×1080)		For viewing images on a wide TV or Hi-Vision compatible TV***

* Images are recorded in the same 3:2 aspect ratio as photograph printing paper or postcards, etc.

** Both edges of the image may be cut off when printing (page 84).

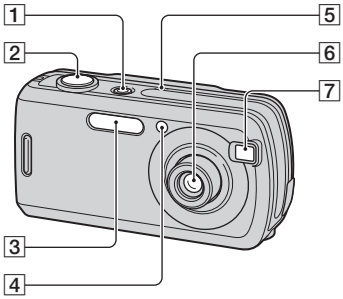
*** You can enjoy even higher picture quality by connecting the camera via a "Memory Stick" slot or a USB connection.

Selecting the image quality (compression ratio) in combination (page 31)

You can select the compression ratio when digital images are saved. When you select a high compression ratio, the image lacks the fineness of detail, but has a smaller file size.

Identifying parts

See the pages in parentheses for details of operation.



1 POWER button/lamp (→ *step 2 in "Read This First"*)

2 Shutter button (→ *step 5 in "Read This First"*)

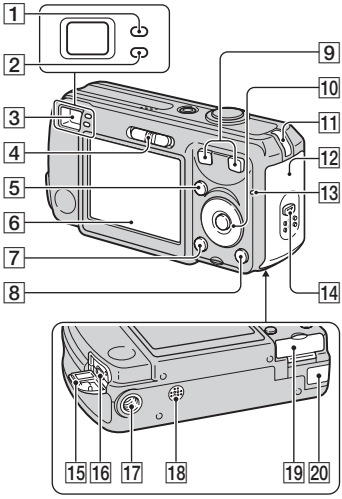
3 Flash (→ *step 5 in "Read This First"*)

4 Self-timer lamp (→ *step 5 in "Read This First"*)/AF illuminator (44)

5 Microphone

6 Lens

7 Finder window



1 AE/AF lock lamp/self-timer lamp (green) (→ *step 5 in "Read This First"*)

2 Flash charge lamp/Record lamp (orange) (→ *step 5 in "Read This First"*)

3 Finder (→ *step 5 in "Read This First"*)

4 Mode switch (24)

5 MENU button (26)

6 LCD screen (20)

7 (Screen status) button (20)

8 / (Image Size/Delete) button (→ *step 4 and 6 in "Read This First"*)

9 For shooting: Zoom (W/T) button (→ *step 5 in "Read This First"*)

For viewing: (Playback zoom) button/ (Index) button (→ *step 6 in "Read This First"*)

10 Control button

Menu on: ▲/▼/◀/▶/● (→ *step 2 in "Read This First"*)

Menu off: / / / (→ *step 5 in "Read This First"*)

11 Hook for wrist strap (→ *"Read This First"*)

12 Battery cover (→ *step 1 in "Read This First"*)

13 Access lamp (→ *step 4 in "Read This First"*)

14 OPEN button (→ *step 1 in "Read This First"*)

15 (USB) jack cover

16 (USB) jack (56)

17 Tripod receptacle (bottom)

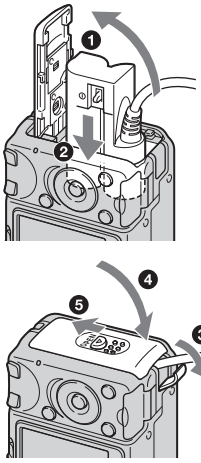
- Use a tripod with a screw length of less than 5.5 mm (7/32 inch). You will be unable to firmly secure the camera to tripods having screws longer than 5.5 mm (7/32 inch), and may damage the camera.
- After use, remove the camera from the tripod.

18 Speaker (bottom)

19 "Memory Stick Duo" cover (→ *step 3 in "Read This First"*)

20 AC Adaptor cord cover

To use the AC-LS5K AC Adaptor (not supplied)

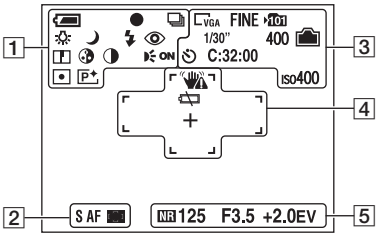


- Do not pinch the cord when you close the cover.

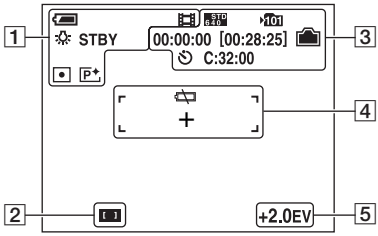
Indicators on the screen

See the pages in parentheses for details of operation.

When shooting still images



When shooting movies



1

Display	Indication
	Battery remaining (→ *step 1 in "Read This First"*)
	AE/AF lock (→ *step 5 in "Read This First"*)
	Recording mode (24, 31)
	White balance (30)
STBY REC	Standby/Recording a movie (→ *step 5 in "Read This First"*)
	Camera mode (Scene Selection) (→ *step 5 in "Read This First"*)
P	Camera mode (Program) (24)
	Flash mode (→ *step 5 in "Read This First"*)
×1.3	Zoom scaling (43, → *step 5 in "Read This First"*)
	Red Eye Reduction (44)
	Sharpness (34)
	Saturation (33)
	Contrast (33)
ON	AF illuminator (44)
	Metering mode (→ *step 5 in "Read This First"*)
	Picture effect (33)

2

Display	Indication
S AF M AF	AF mode (43)
	AF range finder frame indicator (29)

3

Display	Indication
6M 3:2 3M 2M 1M VGA 16:9 FINE 640 STD 640 160	Image size (31, → *step 4 in "Read This First"*)
FINE STD	Image quality (31)
101	Recording folder (47) • This does not appear when using the internal memory.
	Remaining internal memory capacity (21)
	Remaining "Memory Stick" capacity (21)
00:00:00 [00:28:05]	Recording time [maximum recordable time] (21)
1/30"	Multi Burst interval (32)
400	Remaining number of recordable images (21)
	Self-timer (→ *step 5 in "Read This First"*)
C:32:00	Self-diagnosis display (87)
ISO400	ISO number (31)

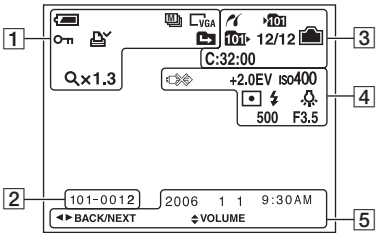
4

Display	Indication
	Vibration warning (10) • Indicates vibration may prevent you from shooting clear images due to insufficient lighting. Even if the vibration warning appears, you can still shoot images. However, we recommend using the flash for better lighting or using a tripod or other means to stabilize the camera.
	Low battery warning (23, 87)
+	Spot metering cross hairs (→ *step 5 in "Read This First"*)
	AF range finder frame (29)

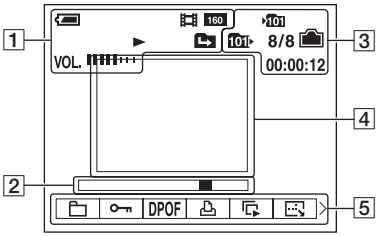
5

Display	Indication
NR	NR slow shutter • When using certain shutter speeds*, the NR slow shutter function activates automatically to reduce the picture noise. * When the shutter speed is equal to or slower than 1/6 second (when [ISO] is set to [Auto], [80], [100] or [200]). When the shutter speed is equal to or slower than 1/25 second (when [ISO] is set to [400], [800] or [1000]).
125	Shutter speed
F3.5	Aperture value
+2.0EV	Exposure Value (28)
(not displayed on the screen on the previous page)	Menu/Guide menu (26)

When playing back still images



When playing back movies



1

Display	Indication
	Battery remaining (→ *step 1 in "Read This First"*)
	Recording mode (24, 31)
6M 3:2 3M 2M 1M VGA 16:9 FINE STD 160	Image size (31, → *step 4 in "Read This First"*)
	Protect (36)
	Print order (DPOF) mark (73)
	Change folder (35) • This does not appear when using the internal memory.
×1.3	Zoom scaling (→ *step 6 in "Read This First"*)
Step 12/16	Frame by frame playback (31)
	Playback (→ *step 6 in "Read This First"*)
VOL.	Volume (→ *step 6 in "Read This First"*)

2

Display	Indication
101-0012	Folder-file number (35)
	Playback bar (→ *step 6 in "Read This First"*)

3

Display	Indication
	PictBridge connecting (70)
101	Recording folder (47) • This does not appear when using the internal memory.
101	Playback folder (35) • This does not appear when using the internal memory.
	Remaining internal memory capacity (21)
	Remaining "Memory Stick" capacity (21)
8/8 12/12	Image number/Number of images recorded in selected folder (35)
C:32:00	Self-diagnosis display (87)
00:00:12	Counter (→ *step 6 in "Read This First"*)

4

Display	Indication
	Do not disconnect the USB cable (71)
+2.0EV	Exposure Value (28)
ISO400	ISO number (31)
	Metering mode (→ *step 5 in "Read This First"*)
	Flash
AWB	White balance (30)
500	Shutter speed
F3.5	Aperture value
	Playback image (→ *step 6 in "Read This First"*)

5

Display	Indication
2006 1 1 9:30 AM	Recorded date/time of the playback image (51)
	Menu/Guide menu (26)
● PAUSE ● PLAY	Playing back Multi Burst images in series (31)
◄► BACK/ NEXT	Select images
▲▼ VOLUME	Adjust volume

Changing the screen display

Each time you press the |□| (Screen status) button, the display changes as follows.

Indicators off



LCD screen off

Indicators on



Image information is displayed during playback.

- When you set the LCD screen to Off, the digital zoom does not function (page 43) and [AF Mode] is set to [Single] (page 43). When you select ⚡ (Flash mode)/⏲ (Self-timer)/[•] (Metering mode), the image is displayed for about two seconds.

Number of still images and recording time of movies

The tables show the approximate number of still images and the length of time for movies that can be recorded on a “Memory Stick Duo” formatted with this camera. The values may vary depending on the shooting conditions.
The number of images that can be recorded using the internal memory is equivalent to that of a 32 MB “Memory Stick Duo”.

The number of still images (The image quality is [Fine] on the upper line and [Standard] on the lower line.)

(Units: Images)

Size \ Capacity	32MB	64MB	128MB	256MB	512MB	1GB	2GB
6M	10	21	42	77	157	322	660
	19	39	79	142	290	592	1215
3:2	10	21	42	77	157	322	660
	19	39	79	142	290	592	1215
3M	20	41	82	148	302	617	1266
	37	74	149	264	537	1097	2250
2M	33	66	133	238	484	988	2025
	61	123	246	446	907	1852	3798
VGA(E-Mail)	196	394	790	1428	2904	5928	12154
	491	985	1975	3571	7261	14821	30385
16:9(HDTV)	33	66	133	238	484	988	2025
	61	123	246	446	907	1852	3798

- The number of images listed is for when [Mode] is set to [Normal].
- When the number of remaining shootable images is greater than 9,999, the “>9999” indicator appears.
- You can resize the images later ([Resize], page 38).

The recording time of movies

(Units: hour : minute : second)

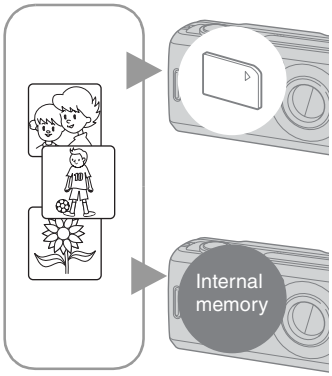
Size \ Capacity	32MB	64MB	128MB	256MB	512MB	1GB	2GB
640(Fine)	–	–	–	0:02:57	0:06:02	0:12:20	0:25:18
640(Standard)	0:01:27	0:02:56	0:05:54	0:10:42	0:21:47	0:44:27	1:31:09
160	0:22:42	0:45:39	1:31:33	2:51:21	5:47:05	11:44:22	24:18:25

- Movies with the size set to [640(Fine)] can only be recorded on a “Memory Stick PRO Duo”.
- For image size and image quality, see page 12.
- When images recorded using earlier Sony models are played back on this camera, the display may differ from the actual image size.

When you do not have a “Memory Stick Duo” (Recording with the internal memory)

The camera has 32 MB of internal memory. This memory is not removable. Even when there is no “Memory Stick Duo” inserted in the camera, you can record images using this internal memory.

• Movies with the image size set to [640(Fine)] cannot be recorded using the internal memory.



When a “Memory Stick Duo” (not supplied) is inserted

[Recording]: Images are recorded on the “Memory Stick Duo”.

[Playback]: Images on the “Memory Stick Duo” are played back.

[Menu, Setup, etc.]: Various functions can be performed on images on the “Memory Stick Duo”.

When there is no “Memory Stick Duo” inserted

[Recording]: Images are recorded using the internal memory.

[Playback]: Images stored in the internal memory are played back.

[Menu, Setup, etc.]: Various functions can be performed on images in the internal memory.

On image data stored in the internal memory

We recommend that you copy (back up) data without fail using one of the following methods.

To copy (back up) data on a “Memory Stick Duo”

Prepare a “Memory Stick Duo” with a capacity of 32 MB or more, then perform the procedure explained in [Copy] (page 48).

To copy (back up) data on a hard disc of your computer

Perform the procedure on pages 55 to 59 without a “Memory Stick Duo” inserted in the camera.

• You cannot move image data on a “Memory Stick Duo” to the internal memory.

• By connecting the camera and a computer with a USB cable, you can copy data stored in the internal memory to a computer, but you cannot copy data on a computer to the internal memory.

Battery life and number of images that can be recorded/viewed

The tables show the approximate number of images that can be recorded/viewed and the battery life when you shoot images in [Normal] mode with new batteries and at an ambient temperature of 25°C (77°F). The numbers of images that can be recorded or viewed take into account changing the "Memory Stick Duo" as necessary.
Note that the actual numbers may be less than those indicated depending on the conditions of use.

- The number of images that can be recorded/viewed and the battery life are decreased under the following conditions:
 - The surrounding temperature is low.
 - The flash is used frequently.
 - The camera has been turned on and off many times.
 - The zoom is used frequently.
 - [AF Mode] is set to [Monitor].
 - The battery power is low.

When shooting still images

Battery	LCD screen	No. of images (Approx.)	Battery life (min.) (Approx.)
Alkaline (supplied)	On	160	80
	Off	220	110
NH-AA-DB (Ni-MH) (not supplied)	On	460	230
	Off	580	290

- Shooting in the following situations:
 - (P.Quality) is set to [Fine].
 - [AF Mode] is set to [Single].
 - Shooting once every 30 seconds.
 - The zoom is switched alternately between the W and T ends.
 - The flash strobes once every two times.
 - The power turns on and off once every ten times.
- The measurement method is based on the CIPA standard.
 (CIPA: Camera & Imaging Products Association)
- The number of shooting images/battery life does not change, regardless of image size.

When viewing still images

Battery	No. of images	Battery life (min.)
Alkaline (supplied)	Approx. 7400	Approx. 370
NH-AA-DB (Ni-MH) (not supplied)	Approx. 10600	Approx. 530

- Viewing single images in order at about three second intervals

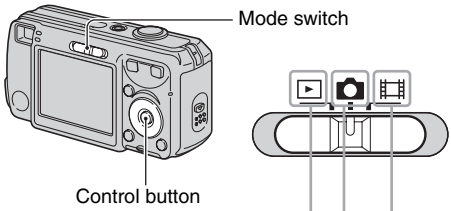
When shooting movies

Battery	LCD screen On	LCD screen Off
Alkaline (supplied)	Approx. 150 min.	Approx. 200 min.
NH-AA-DB (Ni-MH) (not supplied)	Approx. 250 min.	Approx. 350 min.

- Shooting movies continuously with an image size of [160]

Using the mode switch

Set the mode switch to the desired function.



: Shooting movies

→ *step 5 in "Read This First"*

: Playback/Edit

→ *step 6 in "Read This First"*

Still image shooting modes

: Auto: Auto adjustment mode

Allows easy shooting with the settings adjusted automatically. → *step 5 in "Read This First"*

Program: Program auto shooting mode

Allows you to shoot with the exposure adjusted automatically (both the shutter speed and the aperture value). Also you can select various settings using the menu.
(For details on the functions available → page 27)

: Scene Selection mode

Allows you to shoot with preset settings according to the scene. → *step 5 in "Read This First"*

Scene Selection

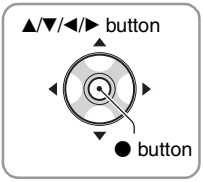
For details → *step 5 in "Read This First"*

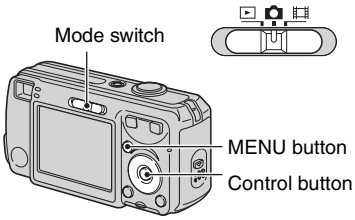
For shooting an image appropriately according to the scene condition, a combination of functions is determined by the camera.

(✓: you can select the desired setting)

	Flash	AF range finder	White Balance	Burst/Multi Burst	Flash Level
ISO	⊗	✓	✓	✓	—
	⊗	✓	✓	—	—
	SL	✓	Auto	—	✓
	✓	✓	✓	✓	✓
	ϟ / ⊗	✓	✓	✓	✓
	ϟ / ⊗	✓	✓	✓	✓
	ϟ / ⊗	✓	✓	✓	✓

Using menu items





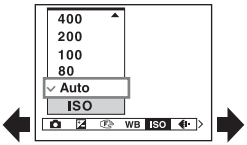
1 Turn on the power and set the mode switch.

Different items are available depending on the position of the mode switch and the (Camera) menu settings.

2 Press MENU to display the menu.

3 Select the desired menu item with ◀/▶ on the control button.

- If the desired item is invisible, keep pressing ◀/▶ until the item appears on the screen.
- Press ● after selecting an item when the mode switch is set to ▶.



4 Select the setting with ▲/▼.

The setting you select is zoomed and is set.

5 Press MENU to turn off the menu.

- If there is an item that is not displayed, an ▲/▼ mark appears on the edges of the location where menu items usually appear. To display an item that is not displayed, select the mark with the control button.
- You cannot select items that are grayed out.

Menu items

For details on the operation → page 26

The menu items available vary depending on the mode switch position. Only the available items are displayed on the screen.

(✓ : available)

Mode switch position:					
	Auto	Program	Scene		

Menu for shooting (page 28)

(Camera)	✓	✓	✓	—	—
(EV)	—	✓	✓	✓	—
(Focus)	—	✓	✓	✓	—
WB (White Bal)	—	✓	✓	✓	—
ISO	—	✓	✓	—	—
(P.Quality)	—	✓	✓	—	—
Mode (REC Mode)	✓	✓	✓	—	—
(Interval)	—	✓	✓*	—	—
(Flash Level)	—	✓	✓*	—	—
PFX (P.Effect)	—	✓	✓	✓	—
(Saturation)	—	✓	—	—	—
(Contrast)	—	✓	—	—	—
(Sharpness)	—	✓	—	—	—
(Setup)	✓	✓	✓	✓	—

Menu for viewing (page 35)

(Folder)	—	—	—	—	✓
(Protect)	—	—	—	—	✓
DPOF	—	—	—	—	✓
(Print)	—	—	—	—	✓
(Slide)	—	—	—	—	✓
(Resize)	—	—	—	—	✓
(Rotate)	—	—	—	—	✓
(Divide)	—	—	—	—	✓
(Setup)	—	—	—	—	✓
Trimming**	—	—	—	—	✓

* The operation is limited according to the Scene mode (page 25).

**Available only during enlarged playback.

For details on the operation → page 26

The default settings are marked with ✓.

(Camera)

Select the still image camera mode. → page 24, *step 5 in "Read This First"*

(EV)



Toward – Toward +

Manually adjusts the exposure.

	+2.0EV	Toward +: Brightens an image.
✓	0EV	The exposure is determined automatically by the camera.
	–2.0EV	Toward –: Darkens an image.

- For details on the exposure → page 11
- The compensation value can be set in 1/3EV increments.
- If a subject is being shot in extremely bright or dark conditions, or the flash is used, the exposure adjustment may not be effective.

(Focus)

You can change the focus method. Use the menu when it is difficult to get the proper focus in auto focus mode.

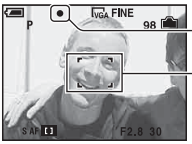
	Center AF ()	Focuses automatically on a subject in the center of the finder frame. • Using this with the AF lock function lets you shoot in the desired image composition. 
✓	Multi AF (Multipoint AF) (Still image) (Movie)	Focuses automatically on a subject in all ranges of the finder frame. • This mode is useful when the subject is not in the center of the frame. 

- AF stands for Auto Focus.
- When you are shooting movies, [Multi AF] is recommended as the AF works even with a certain amount of vibration.
- When you use Digital Zoom or AF Illuminator, priority AF movement is given to subjects in or near the center of the frame. In this case the or indicator flashes and the AF range finder frame is not displayed.
- Some settings cannot be selected depending on the Scene mode.

If the subject is out of focus

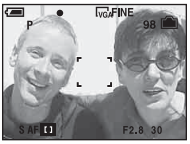
When shooting with the subject at the edge of the frame (or the screen), or when using [Center AF], the camera may not focus on a subject at the edge of the frame. In such cases, do as follows.

① Recompose the shot so that the subject is centered in the AF range finder, and press the shutter button halfway down to focus on the subject (AF lock).



As long as you do not press the shutter button fully down, you can retry the procedure as many times as you want.

② When the AE/AF lock indicator stops flashing and remains on, return to the fully composed shot, and press the shutter button fully down.



WB (White Bal)

Adjusts the color tones according to the lighting condition in a situation, for example, when the colors of an image look strange.

	(Incandescent)	Adjusts for places where the lighting conditions change quickly such as at a party hall, or under bright lighting such as at photography studios.
	(Fluorescent)	Adjusts for fluorescent lighting.
	(Cloudy)	Adjusts for a cloudy sky.
	(Daylight)	Adjusts for outdoors, shooting night scenes, neon signs, fireworks, or sunrise, or conditions before and after sundown.
✓	Auto	Adjusts the White Balance automatically.

- For details on the white balance → page 12
- Under fluorescent lights that flicker, the white balance function may not work correctly even though you select [] (Fluorescent).
- Some options are not available depending on the Scene mode (page 25).

ISO

Selects a luminous sensitivity with units of ISO. The larger the number, the higher the sensitivity.

	1000	Select a large number when shooting in dark locations or shooting a subject moving at high speed, or select a small number to obtain high image quality.
	800	
	400	
	200	
	100	
	80	
✓	Auto	

- For details on the ISO sensitivity → page 11
- Note that the image tends to become noisier as the ISO sensitivity number increases.
- [ISO] is set to [Auto] in the Scene mode.

(P.Quality)

Selects the still image quality.

✓	Fine (FINE)	Records with high quality (low compression).
	Standard (STD)	Records with standard quality (high compression).

- For details on the image quality → page 12

Mode (REC Mode)

Selects whether the camera performs continuous shooting or not when you press the shutter button.

	Multi Burst (M)	Records 16 frames in succession as a still image file when you press the shutter button. • This is convenient for checking your form in sports, for example. • You can select the Multi Burst shutter interval in [Interval] mode (page 32).
	Burst	Records the maximum number of images in succession (refer to the following table) when you press and hold down the shutter button. • When "Recording" disappears, you can shoot the next image.
✓	Normal	Does not shoot continuously.

On the [Multi Burst]

- You can successively play back images shot in the Multi Burst mode using the following procedures:
 - To pause/resume: Press ● on the control button.
 - To play back frame-by-frame: Press ◄/► in pause mode. Press ● to resume playback in series.
- You cannot use the following functions in the Multi Burst mode:
 - Smart zoom
 - Flash
 - Dividing a series of images shot in the Multi Burst mode
 - Deleting a frame in a series of images shot in the Multi Burst mode
 - Setting the frame interval to a mode other than [1/30] when (Camera) is set to [Auto]
- When playing back a series of images shot in the Multi Burst mode using a computer or a camera not equipped with the Multi Burst function, the image is displayed as a single image with 16 frames.
- The image size of images shot in the Multi Burst mode is 1M.
- You may not be able to shoot images in the Multi Burst mode depending on the Scene mode (page 25).

On the [Burst]

- The flash is set to (No flash).
- When recording with the self timer, a series of a maximum of five images is recorded.
- When the battery level is low, or when the internal memory or "Memory Stick Duo" is full, the Burst stops.
- You may not be able to shoot images in the Burst mode depending on the Scene mode (page 25).

The maximum number of continuous shots

(Units: images)

Size \ Quality	Fine	Standard
6M	7	12
3:2	7	12
3M	12	21
2M	19	35
VGA(E-Mail)	100	100
16:9(HDTV)	19	35

(Interval)

Selects the frame interval in the [Multi Burst] mode (page 31).

	1/7.5 (1/7.5")	• This setting cannot be made when [Mode] (REC Mode) in the menu is set to other than [Multi Burst] (page 31).
	1/15 (1/15")	
✓	1/30 (1/30")	

• (Interval) is not displayed in some Scene modes.

⚡± (Flash Level)

Adjusts the amount of flash light.

	+ (⚡+)	Toward +: Makes the flash level higher.
✓	Normal	
	– (⚡–)	Toward –: Makes the flash level lower.

- To change flash mode → *step 5 in "Read This First"*
- You may not be able to set the Flash Level depending on the Scene mode (page 25).

PFX (P.Effect)

Allows you to shoot an image with special effects.

	B & W (P✦)	Records the image in monochrome (black and white).
	Sepia (P✦)	Records the image in sepia (like an old photograph).
✓	Off	No effect.

- This setting is not maintained when the power is turned off.

(Saturation)

Adjusts the saturation of the image.

	+	Toward +: Brightens the color.
✓	Normal	
	–	Toward –: Darkens the color.

◑ (Contrast)

Adjusts the contrast of the image.

	+ (◑)	Toward +: Enhances the contrast.
✓	Normal	
	– (◑)	Toward –: Reduces the contrast.

(Sharpness)

Adjusts the sharpness of the image.

	+ ()	Toward +: Sharpens the image.
✓	Normal	
	− ()	Toward –: Softens the image.

(Setup)

See page 42.

For details on the operation → page 26

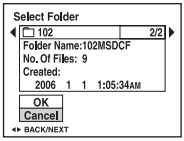
The default settings are marked with ✓.

(Folder)

Selects the folder containing the image you want to play back when using the camera with "Memory Stick Duo".

	OK	See the following procedure.
✓	Cancel	Cancels the selection.

① Select the desired folder with ◀/▶ on the control button.



② Select [OK] with ▲, then press ●.

On the folder

The camera stores images in a specified folder of a "Memory Stick Duo" (page 47). You can change the folder or create a new one.

- To create a new folder → [Create REC. Folder] (page 47)
- To change the folder for recording images → [Change REC. Folder] (page 48)
- When multiple folders are created in the "Memory Stick Duo" and the first or last image in the folder is displayed, the following indicators appear.

: Moves to the previous folder.
: Moves to the next folder.
: Moves to either the previous and next folders.

(Protect)

Protects images against accidental erasure.

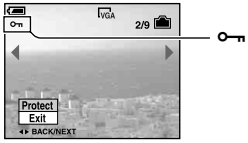
✓	Protect (🔑)	See the following procedure.
	Exit	Exits the Protection function.

To protect images in single-image mode

① Display the image you want to protect.

② Press MENU to display the menu.

③ Select 🔑 (Protect) with ◀/▶ on the control button, then press ●.
The image is protected and the 🔑 (protect) indicator appears on the image.



④ To protect other images, select the desired image with ◀/▶, then press ●.

To protect images in index mode

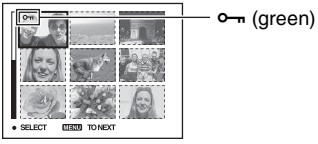
① Press (Index) to display the index screen.

② Press MENU to display the menu.

③ Select 🔑 (Protect) with ◀/▶ on the control button, then press ●.

④ Select [Select] with ▲/▼, then press ●.

⑤ Select the image you want to protect with ▲/▼/◀/▶, then press ●.
A green 🔑 indicator appears on the selected image.



⑥ Repeat step ⑤ to protect other images.

⑦ Press MENU.

⑧ Select [OK] with ▶, then press ●.
The 🔑 indicator turns white. The selected images are protected.

• To protect all images in the folder, select [All In This Folder] in step ④, and press ●. Select [On] with ▶, then press ●.

To cancel the protection

In single-image mode

Press ● in step ③ or ④ of "To protect images in single-image mode."

In index mode

① Select the image for which you want to remove protection in step ⑤ of "To protect images in index mode."

② Press ● to turn the 🔑 indicator gray.

③ Repeat the operation above for all images to be unprotected.

④ Press MENU, select [OK] with ▶, and then press ●.

To cancel protection of all images in the folder

Select [All In This Folder] in step ④ of "To protect images in index mode," and press ●.
Select [Off] with ▶, then press ●.

- Note that formatting the internal memory or "Memory Stick Duo" erases all the data stored on the recording media, even if images are protected, and these images cannot be recovered.
- It may take some time to protect an image.

DPOF

Adds a (Print order) mark to images you want to print (page 73).

(Print)

See page 69.

(Slide)

Plays back recorded images in order (Slide show).

Interval

✓	3 sec	Sets the slide show interval.
	5 sec	
	10 sec	
	30 sec	
	1 min	

Image

✓	Folder	Plays back all images in the selected folder.
	All	Plays back all images stored on the "Memory Stick Duo".

Repeat

✓	On	Plays back images in a continuous loop.
	Off	After all the images have been played back, the slide show ends.

	Start	See the following procedure.
✓	Cancel	Cancels the slide show.

① Select [Interval], [Image] and [Repeat] with ▲/▼/◄/► on the control button.

② Select [Start] with ▼/►, then press ●.
The slide show starts.

To end the slide show, press ●, select [Exit] with ►, then press ●.

- During a slide show, you can display the previous/next image with ◄/►.
- The interval time is just a guideline, so it may vary depending on the image size, etc.

(Resize)

You can change the image size of a recorded image (Resize), and save it as a new file. The original image is retained even after resizing.

	6M	The setting size is just a guideline. → *step 4 in "Read This First"*
	3M	
	2M	
	VGA	
✓	Cancel	Cancels resizing.

① Display the image you want to resize.

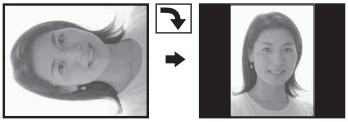
② Press MENU to display the menu.

③ Select (Resize) with ◄/► on the control button, then press ●.

④ Select the desired size with ▲/▼, then press ●.
The resized image is recorded in the recording folder as the newest file.

- For details on [Image Size] → *step 4 in "Read This First"*
- You cannot change the size of movies or Multi Burst images.
- When you change from a small size to a large size, the image quality deteriorates.
- You cannot resize to an image size of 3:2 or 16:9.
- When you resize a 3:2 or 16:9 image, the upper and lower black portions will be displayed on the image.

(Rotate)



Rotates a still image.

	↶↷	Rotates an image. See the following procedure.
	OK	Determines the rotation. See the following procedure.
✓	Cancel	Cancels rotation.

① Display the image to be rotated.

② Press MENU to display the menu.

③ Select (Rotate) with ◀/▶ on the control button, then press ●.

④ Select [↶ ↷] with ▲, then rotate the image with ◀/▶.

⑤ Select [OK] with ▲/▼, then press ●.

- You cannot rotate protected images, movies, or Multi Burst images.
- You may not be able to rotate images shot with other cameras.
- When viewing images on a computer, the image rotation information may not be reflected depending on the software.

(Divide)

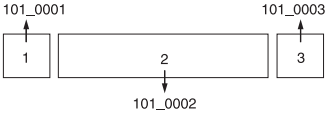
Cuts movies, or deletes unnecessary portions of movies. This is the recommended function to use when the internal memory or "Memory Stick Duo" capacity is insufficient, or when you attach movies to your e-mail messages.

- Note that the original movie is deleted and that number is skipped. Also note that you cannot restore files once you cut them.

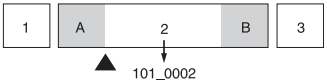
	OK	See the following procedure.
✓	Cancel	Cancels division.

Example: Cutting a movie numbered 101_0002

This section describes an example of dividing a movie numbered 101_0002 and deleting it in the following file configuration.



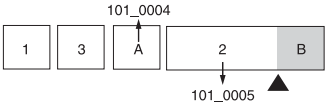
1 Cutting scene A.



Divide

101_0002 is divided into 101_0004 and 101_0005.

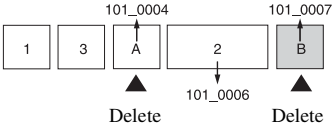
2 Cutting scene B.



Divide

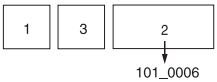
101_0005 is divided into 101_0006 and 101_0007.

3 Deleting scenes A and B if they are unnecessary.



Delete Delete

4 Only the desired scenes remain.



Procedure

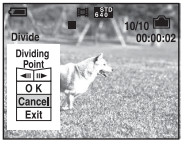
① Display the movie to be divided.

② Press MENU to display the menu.

③ Select ✂ (Divide) with ◀/▶ on the control button, then press ●.

④ Select [OK] with ▲, then press ●.
The playback of the movie starts.

⑤ Press ● at the desired cutting point.



- When you want to adjust the cutting point, select [◀II/II▶] (frame rewind/forward) and adjust the cutting point using ◀/▶.
- If you want to change the cutting point, select [Cancel]. The playback of the movie starts again.

⑥ Select [OK] with ▲/▼, and press ●.

⑦ Select [OK] with ▲, then press ●.
The movie is cut.

- The cut movies are assigned new numbers, and then recorded as the newest files in the selected recording folder.
- You cannot cut the following kinds of images.
 - Still image
 - Movies not long enough to cut (shorter than about two seconds)
 - Protected movies (page 36)

(Setup)

See page 42.

Trimming

Records an enlarged image (→ *step 6 in "Read This First"*) as a new file.

	Trimming	See the following procedure.
✓	Return	Cancels trimming.

① Press MENU during playback zoom to display the menu.

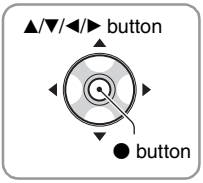
② Select [Trimming] with ▶ on the control button, then press ●.

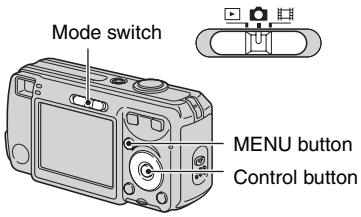
③ Select the image size with ▲/▼, then press ●.
The image is recorded, and the original image is displayed again.

- The trimmed image is recorded as the newest file in the selected recording folder, and the original image is retained.
- The quality of trimmed images may deteriorate.
- You cannot trim to an image size of 3:2 or 16:9.
- You cannot trim images displayed with Quick Review.

Using Setup items

You can change the default settings using the Setup screen.





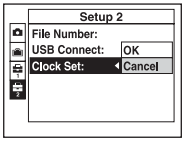
1 Turn on the power.

2 Press MENU to display the menu.

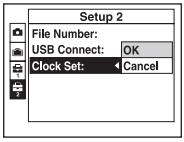
3 After pressing ► on the control button, go to the (Setup) setting, then press ► again.

4 Press ▲/▼/◄/► on the control button to select the item you want to set.

The frame of the selected item turns yellow.



5 Press ● to enter the setting.



To turn off the (Setup) screen, press MENU.
To return to the menu from the (Setup) screen, press ◄ on the control button repeatedly.

To cancel the (Setup) setting

Select [Cancel] if it appears, then press ● on the control button. If it does not appear, select the previous setting again.

• This setting is maintained even when the power is turned off.

The default settings are marked with ✓.

AF Mode

Selects the auto focus operation mode.

✓	Single (S AF)	Automatically adjusts the focus when the shutter button is pressed and held halfway down. This mode is useful for shooting stationary subjects.
	Monitor (M AF)	Automatically adjusts the focus before the shutter button is pressed and held halfway down. This mode shortens the time needed for focusing. • Battery consumption is faster than in [Single] mode.

• When shooting using the finder with the LCD screen off, the camera operates in the [Single] mode.

Digital Zoom

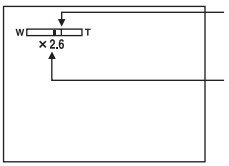
Selects the digital zoom mode. The camera enlarges the image using optical zoom (up to 3×). When the zoom scale exceeds 3×, the camera uses either smart or precision digital zoom.

✓	Smart (Smart zoom) (S🔍)	Enlarges the image digitally with almost no distortion. This is not available when the image size is set to [6M] or [3:2]. • The maximum zoom scale of Smart zoom is shown in the following table.
	Precision (Precision digital zoom) (P🔍)	Enlarges all image sizes up to a maximum of 6×, but the image quality deteriorates.
	Off	Does not use the digital zoom.

Image size and maximum zoom scale using Smart zoom

Size	Maximum zoom scale
3M	Approx. 4.1×
2M	Approx. 5.2×
VGA(E-Mail)	Approx. 13×
16:9(HDTV)	Approx. 4.4×

• When you press the zoom button, the zoom scaling indicator appears as follows.

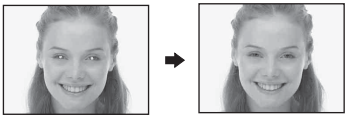


The W side of this line is the optical zoom area, and the T side is the digital zoom area

Zoom scaling indicator

- The maximum zoom scale of smart zoom/precision digital zoom includes the scale of the optical zoom.
- The AF range finder frame does not appear when using the digital zoom. The [] or [] indicator flashes, and AF operates with priority on subjects located near the center of the frame.
- When using the smart zoom, the image on the screen may look rough. However, this phenomenon has no effect on the recorded image.

Red Eye Reduction



Reduces the red-eye phenomenon when using the flash. Select this before shooting.

	On (◉)	Reduces the red-eye phenomenon. • The flash pre-strobes twice or more before shooting.
✓	Off	Does not use Red Eye Reduction.

- Because it takes about a second until the shutter clicks, hold the camera firmly to prevent the effects of vibration. Also, do not let the subject move.
- Red Eye Reduction may not produce the desired effects depending on individual differences, the distance to the subject, if the subject does not see the pre-strobe, or other conditions.

AF Illuminator

The AF illuminator supplies fill light to focus more easily on a subject in dark surroundings. The AF illuminator emits red light allowing the camera to focus easily when the shutter button is pressed halfway, until the focus is locked. The ◗ON indicator appears at this time.

✓	Auto	Uses the AF illuminator.
	Off	Does not use AF illuminator.

- If the AF illuminator light does not reach the subject sufficiently or the subject has no contrast, focus will not be achieved. (A distance of up to approximately 3.5 m (137 7/8 inches) (W)/2.5 m (98 1/2 inches) (T) is recommended.)
- Focus is achieved as long as the AF illuminator light reaches the subject, even if the light is slightly off the center of the subject.
- The AF range finder frame does not appear. The [] or [] indicator flashes, and AF operates with priority on subjects located near the center of the frame.
- The AF illuminator does not operate when ☽ (Twilight mode) or ⛰ (Landscape mode) is selected in the Scene mode.
- The AF illuminator emits very bright light. Although there are no problems with safety, do not look directly into the AF illuminator emitter at close range.

Auto Review

Displays the recorded image on the screen for approximately two seconds immediately after shooting a still image.

✓	On	Use the Auto Review.
	Off	Does not use Auto Review.

- If you press the shutter button halfway down during this period, the recorded image display disappears and you can immediately shoot the next image.

This item does not appear when a “Memory Stick Duo” is inserted in the camera.
The default settings are marked with ✓.

Format

Formats the internal memory.

• Note that formatting irrevocably erases all data in the internal memory, including even protected images.

	OK	See the following procedure.
✓	Cancel	Cancels the formatting.

① Select [OK] with ▲ on the control button, then press ●.
The message “All data in internal memory will be erased Ready?” appears.

② Select [OK] with ▲, then press ●.
The format is complete.

Memory Stick Tool

For details on the operation → page 42

This item appears only when a “Memory Stick Duo” is inserted in the camera.
The default settings are marked with ✓.

Format

Formats the “Memory Stick Duo”. A commercially available “Memory Stick Duo” is already formatted, and can be used immediately.

- Note that formatting irrevocably erases all data on a “Memory Stick Duo”, including even protected images.

	OK	See the following procedure.
✓	Cancel	Cancels the formatting.

① Select [OK] with ▲ on the control button, then press ●.
The message “All data in Memory Stick will be erased Ready?” appears.

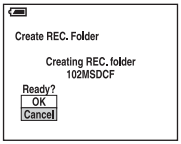
② Select [OK] with ▲, then press ●.
The format is complete.

Create REC. Folder

Creates a folder in a “Memory Stick Duo” for recording images.

	OK	See the following procedure.
✓	Cancel	Cancels folder creation.

① Select [OK] with ▲ on the control button, then press ●.
The folder creation screen appears.



② Select [OK] with ▲, then press ●.
A new folder is created with a number incremented one higher than the largest number, and the folder becomes the current recording folder.

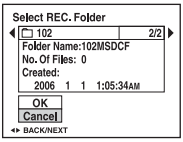
- For details on the folder, see page 35.
- When not creating a new folder, the “101MSDCF” folder is selected as the recording folder.
- You can create folders designated up to “999MSDCF.”
- Images are recorded in the newly created folder until a different folder is created or selected.
- You cannot delete a folder with the camera. To delete a folder, use your computer, etc.
- Up to 4,000 images can be stored in one folder. When the folder capacity is exceeded, a new folder is automatically created.
- For more information, see “Image file storage destinations and file names” (page 60).

Change REC. Folder

Changes the folder currently used for recording images.

	OK	See the following procedure.
✓	Cancel	Cancels changing the recording folder.

① Select [OK] with ▲ on the control button, then press ●.
The folder selection screen appears.



② Select the desired folder with ◄/►, and [OK] with ▲, then press ●.

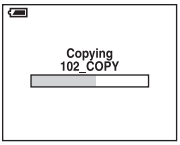
- You cannot select the “100MSDCF” folder as a recording folder.
- You cannot move recorded images to a different folder.

Copy

Copies all images in the internal memory to a “Memory Stick Duo”.

	OK	See the following procedure.
✓	Cancel	Cancels the copying.

① Insert a “Memory Stick Duo” having 32 MB or larger capacity.
② Select [OK] with ▲ on the control button, then press ●.
The message “All data in internal memory will be copied Ready?” appears.
③ Select [OK] with ▲, then press ●.
Copying starts.



- Use batteries with enough capacity or the AC Adaptor (not supplied). If you attempt to copy image files using batteries with little remaining capacity, the batteries may run out, causing copying to fail or possibly corrupting the data.
- You cannot copy individual images.
- The original images in the internal memory are retained even after copying. To delete the contents of the internal memory, remove the “Memory Stick Duo” after copying, then execute the [Format] command in (Internal Memory Tool) (page 46).
- You cannot select a folder copied on a “Memory Stick Duo”.
- Even if you copy data, a (Print order) mark is not copied.

The default settings are marked with ✓.

Beep

Selects the sound produced when you operate the camera.

	Shutter	Turns on the shutter sound when you press the shutter button.
✓	On	Turns on the beep/shutter sound when you press the control button/ press the shutter button.
	Off	Turns off the beep/shutter sound.

Language

Selects the language to be used to display the menu items, warnings, and messages.

Initialize

Initializes the setting to the default setting.

	OK	See the following procedure.
✓	Cancel	Cancels the resetting.

① Select [OK] with ▲ on the control button, then press ●.
The message “Initialize all settings Ready?” appears.

② Select [OK] with ▲, then press ●.
The settings are reset to the default setting.

• Make sure that the power is not disconnected during resetting.

The default settings are marked with ✓.

File Number

Selects the method used to assign file numbers to images.

✓	Series	Assigns numbers to files in sequence even if the recording folder or the "Memory Stick Duo" is changed. (When the replaced "Memory Stick Duo" contains a file with a number higher than the last assigned number, a number one higher than the largest number is assigned.)
	Reset	Starts from 0001 each time the folder is changed. (When the recording folder contains a file, a number one higher than the largest number is assigned.)

USB Connect

Selects the USB mode to be used when connecting the camera to a computer or a PictBridge compliant printer using the USB cable.

	PictBridge	Connects the camera to a PictBridge compliant printer (page 69).
	PTP	When [PTP] (Picture Transfer Protocol) is set and the camera is connected to a computer, the images in the recording folder on the camera are copied to the computer. (Compatible with Windows XP and Mac OS X.)
	Mass Storage	Establishes a Mass Storage connection between the camera and a computer or other USB device (page 56).
✓	Auto	The camera recognizes automatically and sets up communication with a computer or PictBridge compliant printer (pages 56 and 69). • If the camera and a PictBridge compliant printer cannot be connected when set to [Auto], change the setting to [PictBridge]. • If the camera and a computer or other USB device cannot be connected when set to [Auto], change the setting to [Mass Storage].

Clock Set

Sets the date and time.

	OK	Select [OK] with ▲ on the control button, and press ●. Then, perform the procedure explained in "Set the clock" (→ *step 2 in "Read This First"*).
✓	Cancel	Cancels setting the clock.

Enjoying your Windows computer

For details on using a Macintosh computer, refer to "Using your Macintosh computer" (page 66).
This section describes the English version screen contents.



Install the supplied software first (page 54)



Copying images to your computer (page 55)



Viewing images on your computer

Enjoying images using the supplied software (page 62)



- Viewing images saved on your computer
- Viewing photos organized by date
- Editing images



Printing images

Recommended computer environment

The following environment is recommended for a computer connected to the camera.

Recommended environment for copying images

OS (pre-installed): Microsoft Windows 2000 Professional, Windows Millennium Edition, Windows XP Home Edition or Windows XP Professional

- Operation is not assured in an environment based on an upgrade of the operating systems described above or in a multi-boot environment.

Processor: MMX Pentium 200 MHz or faster

USB connector: Provided as standard

Display:
Screen resolution; 800 × 600 dots or more
Colors; High Color (16-bit color, 65,000 colors) or more

Recommended environment for using the supplied software

OS (pre-installed): Microsoft Windows 2000 Professional, Windows Millennium Edition, Windows XP Home Edition or Windows XP Professional

Sound card: 16-bit stereo sound card with speakers

Processor/Memory: Pentium III 500 MHz or faster, 128 MB of RAM or more (Recommended: Pentium III 800 MHz or faster and 256 MB of RAM or more)

Hard Disk: Disk space required for installation—200 MB or more

Display:
Screen resolution; 800 × 600 dots or more
Colors; High Color (16-bit color, 65,000 colors) or more

Notes on connecting your camera to a computer

- Operations are not guaranteed for all the recommended computer environments mentioned above.
- If you connect two or more USB devices to a single computer at the same time, some devices, including your camera, may not operate, depending on the types of USB devices you are using.
- Operations are not guaranteed when using a USB hub.
- Connecting your camera using a USB interface that is compatible with Hi-Speed USB (USB 2.0 compliant) allows advanced transfer (high speed transfer) as this camera is compatible with Hi-Speed USB (USB 2.0 compliant).
- There are three modes for a USB connection when connecting a computer, [Auto] (default setting), [Mass Storage] and [PTP] modes. This section describes the [Auto] and [Mass Storage] as examples. For details on [PTP], see page 50.
- When your computer resumes from a suspend or sleep mode, communication between your camera and your computer may not recover at the same time.

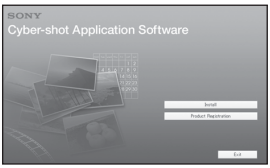
Installing the supplied software

You can install the supplied software using the following procedure.

- When using Windows 2000/Me, do not connect the camera to the computer before installation.
- In Windows 2000/XP, log on as Administrator.
- When the supplied software is installed, the USB driver is installed automatically.

1 Turn on your computer, and insert the CD-ROM (supplied) into the CD-ROM drive.

The installation menu screen appears.



- If it does not appear, double-click (My Computer) → (CYBERSHOTSOFT).

2 Click [Install].

The “Choose Setup Language” screen appears.

3 Select the desired language, then click [Next].

The “License Agreement” screen appears.
Read the agreement carefully. If you accept the terms of the agreement, click the radio button next to [I accept the terms of the license agreement] and then click [Next].

4 Follow the instructions on the screen to complete the installation.

When the restarting confirmation message appears, restart the computer following the instructions on the screen.

5 Remove the CD-ROM after the installation is complete.

Copying images to your computer

This section describes the process using a Windows computer as an example.
You can copy images from the camera to your computer as follows.

For a computer with a "Memory Stick" slot

Remove the "Memory Stick Duo" from the camera and insert it in the Memory Stick Duo Adaptor. Insert the Memory Stick Duo Adaptor in the computer and copy the images.

For a computer without a "Memory Stick" slot

Follow Stages 1 through 4 on pages 55 to 59 to copy images.

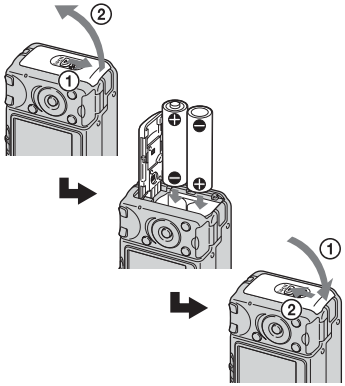
- When using Windows 2000/Me, install the supplied software before proceeding. With Windows XP, the installation is unnecessary.
- The screen displays shown in this section are the examples for copying images from "Memory Stick Duo".

Stage 1: Preparing the camera and the computer

1 Insert a "Memory Stick Duo" with recorded images into the camera.

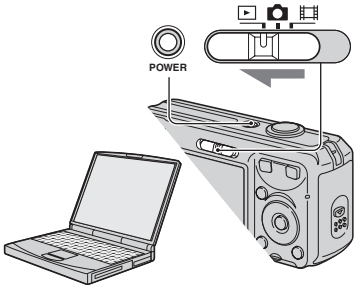
- When copying images in the internal memory, this step is unnecessary.

2 Insert batteries with enough capacity in the camera, or connect the camera to a wall outlet (wall socket) with the AC Adaptor (not supplied).

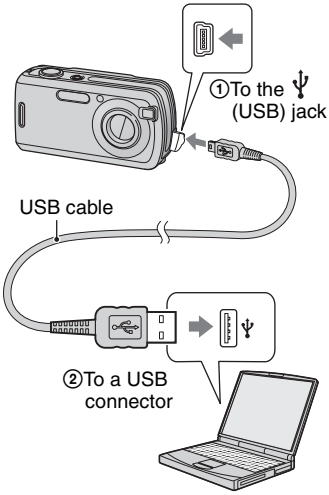


- When you copy images to your computer using batteries, copying may fail or image data may become corrupted if the batteries shut down too soon.

3 Set the mode switch to ▶, then turn on the camera and the computer.

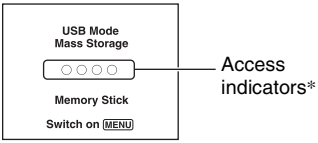


Stage 2: Connecting the camera and your computer



- With Windows XP, the AutoPlay wizard appears on the desktop.

"USB Mode Mass Storage" appears on the screen of the camera.



When a USB connection is established for the first time, your computer automatically runs a program to recognize the camera. Wait for a while.

* During communication, the access indicators turn red. Do not operate the computer until the indicators turn white.

- If "USB Mode Mass Storage" does not appear, set [USB Connect] to [Mass Storage] (page 50).

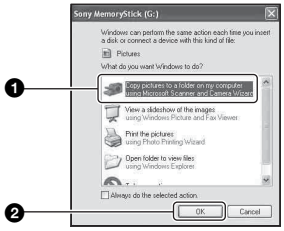
Stage 3-A: Copying images to a computer

XP

- For Windows 2000/Me, follow the procedure explained in "Stage 3-B: Copying images to a Computer" on page 57.
- For Windows XP, when the wizard screen does not appear automatically, follow the procedure explained in "Stage 3-B: Copying images to a Computer" on page 57.

This section describes an example of copying images to a "My Documents" folder.

1 After making a USB connection in Stage 2, click [Copy pictures to a folder on my computer using Microsoft Scanner and Camera Wizard] → [OK] as the wizard screen appears automatically on the desktop.



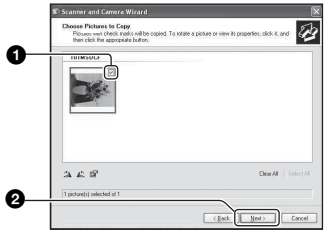
The "Scanner and Camera Wizard" screen appears.

2 Click [Next].

The images saved on the "Memory Stick Duo" of the camera appear.

- If no "Memory Stick Duo" is inserted, images in the internal memory appear.

3 Click the check box of unwanted images to remove the checkmark so they are not copied, then click [Next].



The “Picture Name and Destination” screen appears.

4 Select a name and destination for the images, then click [Next].

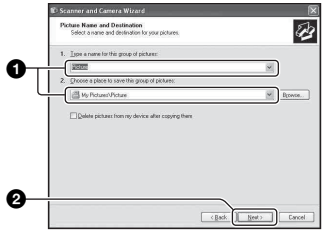
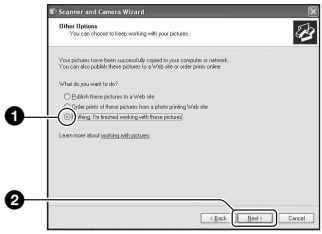


Image copying starts. When the copying is completed, the “Other Options” screen appears.

- This section describes an example of copying images to the “My Documents” folder.

5 Click the radio button next to [Nothing. I'm finished working with these pictures] to select it, then click [Next].



The “Completing the Scanner and Camera Wizard” screen appears.

6 Click [Finish].

The wizard screen closes.

- To continue copying other images, disconnect the USB cable (page 59). Then follow the procedure explained in “Stage 2: Connecting the camera and your computer” on page 56.

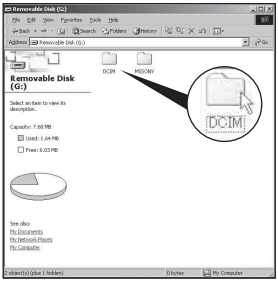
Stage 3-B: Copying images to a Computer

2000 Me

- For Windows XP, follow the procedure explained in “Stage 3-A: Copying images to a computer” on page 56.

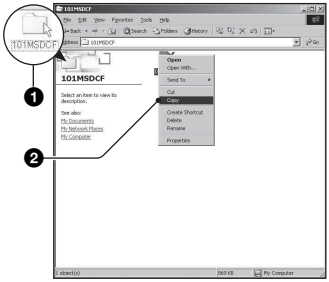
This section describes an example of copying images to the “My Documents” folder.

1 Double-click [My Computer] → [Removable Disk] → [DCIM].



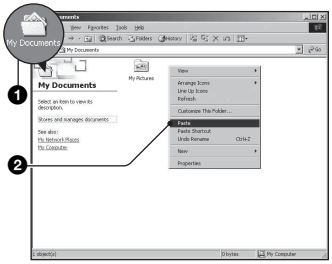
- If the “Removable Disk” icon is not displayed, see page 81.

2 Double-click the folder where the image files you want to copy are stored. Then, right-click an image file to display the menu and click [Copy].



- On the storage destination of the image files, see page 60.

3 Double-click the [My Documents] folder. Then, right-click on the “My Documents” window to display the menu and click [Paste].



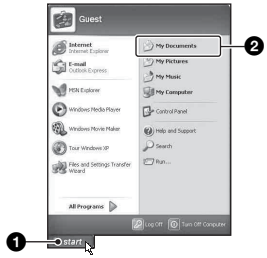
The image files are copied to the “My Documents” folder.

- When an image with the same file name exists in the copy destination folder, the overwrite confirmation message appears. When you overwrite an existing image with a new one, the original file data is deleted. To copy an image file to the computer without overwriting, change the file name to a different name and then copy the image file. However, note that if you change the file name (page 61), you may not be able to play back that image with your camera.

Stage 4: Viewing images on your computer

This section describes the procedure for viewing copied images in the “My Documents” folder.

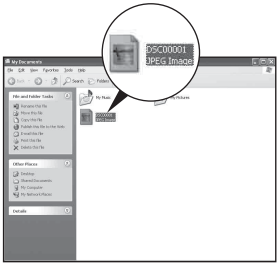
1 Click [Start] → [My Documents].



The contents of the “My Documents” folder are displayed.

- If you are not using Windows XP, double-click [My Documents] on the desktop.

2 Double-click the desired image file.



The image is displayed.

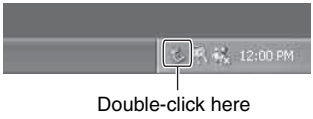
To delete the USB connection

Perform the procedures listed below beforehand when:

- Disconnecting the USB cable
- Removing a “Memory Stick Duo”
- Inserting a “Memory Stick Duo” into the camera after copying images from the internal memory
- Turning off the camera

■ For Windows 2000/Me/XP

① Double-click on the tasktray.



② Click (Sony DSC) → [Stop].

③ Confirm the device on the confirmation window, then click [OK].

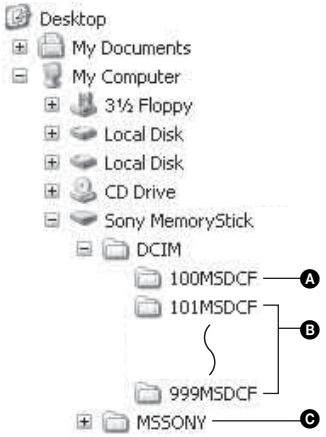
④ Click [OK].
The device is disconnected.

- Step 4 is unnecessary for Windows XP.

Image file storage destinations and file names

The image files recorded with your camera are grouped as folders on the “Memory Stick Duo”.

Example: viewing folders on Windows XP



A Folder containing image data recorded using a camera not equipped with the folder creating function

B Folder containing image data recorded using this camera
When no new folders are created, there are folders as follows:
– “Memory Stick Duo”; “101MSDCF” only
– Internal memory; “101_SONY” only

C Folder containing movie data, etc., recorded using a camera not equipped with the folder creating function

- You cannot record any images to the “100MSDCF” folder. The images in these folders are available only for viewing.
- You cannot record/playback any images to the “MSSONY” folder.
- Image files are named as follows. □□□□ stands for any number within the range from 0001 to 9999. The numerical portions of the name of a movie file recorded in movie mode and its corresponding index image file are the same.
 – Still image files: DSC0□□□□.JPG
 – Movie files: MOV0□□□□.MPG
 – Index image files that are recorded when you record movies: MOV0□□□□.THM
- For more information about folders, see pages 35 and 47.

Viewing image files stored on a computer with your camera (using a “Memory Stick Duo”)

This section describes the process using a Windows computer as an example.
When an image file copied to a computer no longer remains on a “Memory Stick Duo”, you can view that image again on the camera by copying the image file on the computer to a “Memory Stick Duo”.

- Step 1 is not necessary if the file name set with your camera has not been changed.
- You may be unable to play back some images depending on the image size.
- When an image file has been processed by a computer or when the image file was recorded using a model other than that of your camera, playback on your camera is not guaranteed.
- When there is no folder, first create a folder with your camera (page 47) and then copy the image file.

1 Right-click the image file, then click [Rename]. Change the file name to “DSC0□□□□.”

Enter a number from 0001 to 9999 for □□□□.



- If the overwrite confirmation message appears, enter a different number.
- An extension may be displayed depending on the computer settings. The extension for still images is JPG, and the extension for movies is MPG. Do not change the extension.

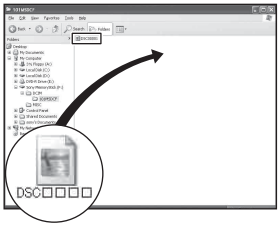
2 Copy the image file to the “Memory Stick Duo” folder in the following order.

①Right-click the image file, then click [Copy].

②Double-click [Removable Disk] or [Sony MemoryStick] in [My Computer].

③Right-click the [□□□MSDCF] folder in the [DCIM] folder, then click [Paste].

- □□□ stands for any number within the range from 100 to 999.



Using the supplied software

You can use still images and video from the camera more than ever by taking advantage of the software.
This section summarizes the software and gives basic instructions.

Software overview

With the software you can:

- Import images shot with the camera and display them on the monitor.
- Organize images on the computer on a calendar by shooting date to view them.
- Retouch, print, and send still images as e-mail attachments, change the shooting date, and more.
- For details on the supplied software, refer to the Help.

To access the Help, click [Start] → [Programs] (in Windows XP, [All Programs]) → [Sony Picture Utility] → [Help] → [Cyber-shot Viewer].

Starting and exiting the software

Starting the software

Double-click the (Cyber-shot Viewer) icon on the desktop.
Or, from the Start menu: Click [Start] → [Programs] (in Windows XP, [All Programs]) → [Sony Picture Utility] → [Cyber-shot Viewer].

Exiting the software

Click button in the top right corner of the screen.

Basic instructions

Follow these steps to import and view images from the camera.

Importing images

1 Make sure "Media Check Tool"* is running.

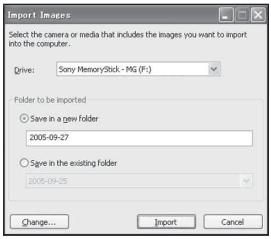
* "Media Check Tool" is a program that automatically detects and imports images when a "Memory Stick" is inserted or when the camera is connected.

Look for a (Media Check Tool) icon in the taskbar.

- If there is no icon: Click [Start] → [Programs] (in Windows XP, [All Programs]) → [Sony Picture Utility] → [Cyber-shot Viewer] → [Tools] → [Media Check Tool].

2 Connect the camera to your computer with the USB cable.

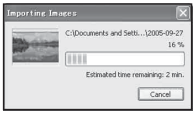
After the camera is automatically detected, the [Import Images] screen is displayed.



- If you will use the "Memory Stick" slot, first refer to page 55.
- In Windows XP, if the AutoPlay Wizard appears, close it.

3 Import the images.

To start importing images, click the [Import] button.



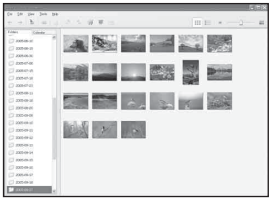
By default, images are imported into a folder created in “My Pictures” that is named with the date of importing.

- For instructions on changing the “Folder to be imported”, refer to page 65.

Viewing images

1 Checking imported images

When importing is complete, the software starts. Thumbnails of the imported images are displayed.



- The “My Pictures” folder is set as the default folder in “Viewed folders”.
- You can double-click a thumbnail to display the image by itself.

2 Viewing images in “Viewed folders” arranged by shooting date on a calendar

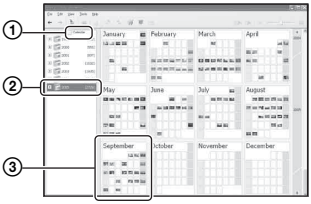
① Click the [Calendar] tab.
Years when images were shot are listed.

② Click the year.
Images shot that year are displayed, arranged on the calendar by shooting date.

③ To display images by month, click the desired month.
Thumbnails of images shot that month are displayed.

④ To display images by time, click the desired date.
Thumbnails of images shot that day are displayed, arranged by hour.

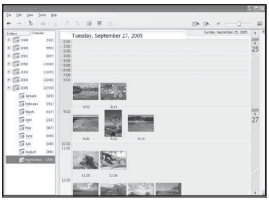
Year display screen



Month display screen



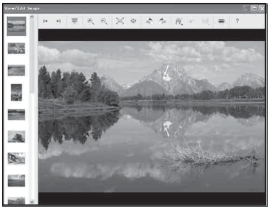
Hour display screen



- To list images from a particular year or month, click that period on the left of the screen.

3 Displaying individual images

On the hour display screen, double-click a thumbnail to display the image by itself in a separate window.



- You can edit displayed images by clicking the toolbar button.

Displaying images in full-screen mode

To display a slide show of current images in full-screen mode, click the button.

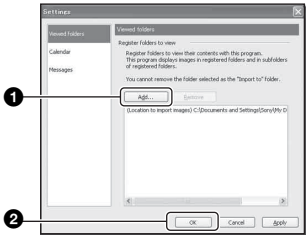


- To play or pause the slide show, click the button on the lower left of the screen.
- To stop the slide show, click the × button on the lower left of the screen.

Other software functions

Preparing images stored on the computer for viewing

You can view images previously stored on the computer with the software. To view them, register the folder that contains the images as one of the “Viewed folders”. From the [File] menu, choose [Register Viewered Folders...] to display the settings screen for “Viewed folders” registration.

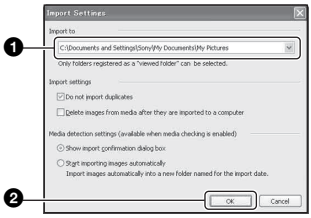


Click the [Add...] button, and then specify the folder with images for importing to register the folder as a “Viewed folder.”

- Images in any subfolders of “Viewed folders” are also registered.

Changing the “Folder to be imported”

To change the “Folder to be imported”, access the “Import Settings” screen.
To display the “Import Settings” screen, choose [Image Import Settings...] from the [File] menu.



Choose the “Folder to be imported”.

- You can specify the “Folder to be imported” from folders registered as “Viewed folders.”

Updating image registration information

To update image information, choose [Update Database] from the [Tools] menu.

- Updating the database may take a while.
- If you rename image files or folders in “Viewed folders”, they cannot be displayed with this software. In this case, update the database.

Technical Support

Additional information on this product and answers to frequently asked questions can be found at the Sony Customer Support Website.
http://www.sony.net/

Using your Macintosh computer

You can copy images to your computer.

- The supplied software is not compatible with Macintosh computers.

Recommended computer environment

The following environment is recommended for a computer connected to the camera.

Recommended environment for copying images

OS (pre-installed): Mac OS 9.1, 9.2 or Mac OS X (v10.0 or later)

USB connector: Provided as standard

Notes on connecting your camera to a computer

- Operations are not guaranteed for all the recommended computer environments mentioned above.
- If you connect two or more USB devices to a single computer at the same time, some devices, including your camera, may not operate depending on the types of USB devices you are using.
- Operations are not guaranteed when using a USB hub.
- Connecting your camera using a USB interface that is compatible with Hi-Speed USB (USB 2.0 compliant) allows advanced transfer (high speed transfer) as this camera is compatible with Hi-Speed USB (USB 2.0 compliant).
- There are three modes for a USB connection when connecting a computer, [Auto] (default setting), [Mass Storage] and [PTP] modes. This section describes the [Auto] and [Mass Storage] as examples. For details on [PTP], see page 50.
- When your computer resumes from the suspend or sleep mode, communication between your camera and your computer may not recover at the same time.

Copying and viewing images on a computer

1 Prepare the camera and a Macintosh computer.

Perform the same procedure as that described in “Stage 1: Preparing the camera and the computer” on page 55.

2 Connect the USB cable.

Perform the same procedure as that described in “Stage 2: Connecting the camera and your computer” on page 56.

3 Copy image files to the Macintosh computer.

① Double-click the newly recognized icon → [DCIM] → the folder where the images you want to copy are stored.

② Drag and drop the image files to the hard disk icon.
The image files are copied to the hard disk.

- For details on the storage location of the images and file names, see page 60.

4 View images on the computer.

Double-click the hard disk icon → the desired image file in the folder containing the copied files to open that image file.

To delete the USB connection

Perform the procedures listed below beforehand when:

- Disconnecting the USB cable
- Removing a “Memory Stick Duo”
- Inserting a “Memory Stick Duo” into the camera after copying images from the internal memory
- Turning off the camera

Drag and drop the drive icon or the icon of the “Memory Stick Duo” to the “Trash” icon.

The camera is disconnected from the computer.

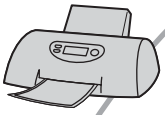
- If you are using Mac OS X v10.0, perform the procedure above after you have turned your computer off.

Additional information on this product and answers to frequently asked questions can be found at the Sony Customer Support Website.
http://www.sony.net/

How to print still images

When you print images shot in [16:9(HDTV)] mode, both edges may be cut off, so be sure to check before printing (page 84).

Printing images directly using a PictBridge compliant printer (page 69)



You can print images by connecting the camera directly to a PictBridge compliant printer.

Printing directly using a "Memory Stick" compliant printer



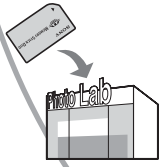
You can print images with a "Memory Stick" compliant printer. For details, see the operating instructions supplied with the printer.

Printing using a computer



You can copy images to a computer using the supplied software and print the images.

Printing at a shop (page 73)



You can take a "Memory Stick Duo" containing images shot with your camera to a photo printing service shop. You can make a (Print order) mark on images that you want to print out in advance.

Printing images directly using a PictBridge compliant printer

Even if you do not have a computer, you can print images shot using your camera by connecting the camera directly to a PictBridge compliant printer.

PictBridge

- "PictBridge" is based on the CIPA standard. (CIPA: Camera & Imaging Products Association)

In single-image mode

You can print a single image on a printing sheet.



In index mode

You can print several images at a reduced size on a printing sheet. You can print a set of either the same images (①) or different images (②).

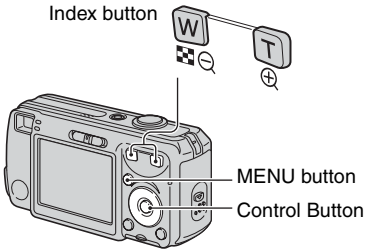
① ②



- An index print function may not be provided depending on the printer.
- The quantity of images that can be printed as an index image differ depending on the printer.
- You cannot print movies.
- If the indicator flashes on the screen of the camera for about five seconds (error notification), check the connected printer.

Stage 1: Preparing the camera

Prepare the camera to connect it to the printer with the USB cable. When connecting the camera to a printer that is recognized when [USB Connect] is set to [Auto], Stage 1 is unnecessary.



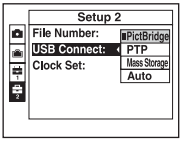
- It is recommended to use batteries with enough capacity or an AC Adaptor (not supplied) to prevent the power from turning off partway through printing.

1 Press MENU to display the menu.

2 Press ► on the control button to select (Setup).

3 Select [] (Setup 2) with ▼, then select [USB Connect] with ▲/▼/►.

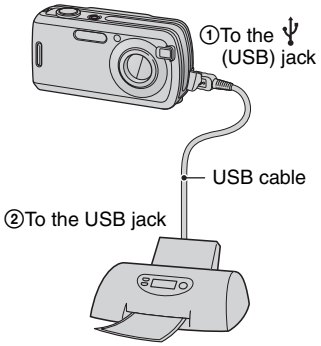
4 Select [PictBridge] with ►/▲, then press ●.



The USB mode is set.

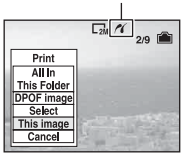
Stage 2: Connecting the camera to the printer

1 Connect the (USB) jack on your camera and the USB jack on the printer with the supplied USB cable.



2 Turn on your camera and the printer.

After the connection is made, the indicator appears.



The camera is set to playback mode, then an image and the print menu appear on the screen.

Stage 3: Printing

Regardless of what the mode switch is set to, the print menu appears when you complete Stage 2.

1 Select the desired printing method with ▲/▼ on the control button, then press ●.

[All In This Folder]

Prints all the images in the folder.

[DPOF image]

Prints all the images with a (Print order) mark (page 73) regardless of the displayed image.

[Select]

Selects images and prints all the selected images.

① Select the image you want to print with ◀/▶, then press ●.
The ✓ mark appears on the selected image.
- To select other images, repeat this procedure.

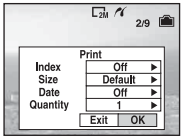
② Select [Print] with ▼, then press ●.

[This image]

Prints a displayed image.

- If you select [This image] and set [Index] to [On] in step 2, you can print a set of the same images as an index image.

2 Select print settings with ▲/▼/◀/▶.



[Index]

Select [On] to print as an index image.

[Size]

Select the size of the printing sheet.

[Date]

Select [Day&Time] or [Date] to insert the date and time on images.

- When you choose [Date], the date will be inserted in the order you select (→ *step 2 in "Read This First"*). This function may not be provided depending on the printer.

[Quantity]

When [Index] is set to [Off]:

Select the number of sheets of an image that you want to print. The image will be printed as a single image.

When [Index] is set to [On]:

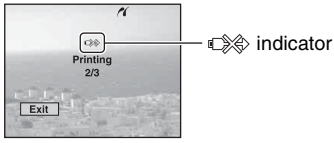
Select the number of sets of images that you want to print as an index image. If you selected [This image] in step 1, select the number of the same image you want to print side by side on a sheet as an index image.

- The designated number of images may not all fit onto a single sheet depending on the quantity of images.

3 Select [OK] with ▼/▶, then press ●.

The image is printed.

- Do not disconnect the USB cable while the (Do not disconnect the USB cable) indicator appears on the screen.



To print other images

After step 3, select [Select] and the desired image with ▲/▼, then perform from step 1.

To print images on the index screen

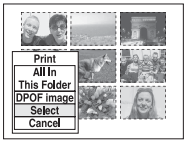
Perform "Stage 1: Preparing the camera" (page 69) and "Stage 2: Connecting the camera to the printer" (page 70), then proceed with the following.
When you connect the camera to a printer, the print menu appears. Select [Cancel] to turn off the print menu, then proceed as follows.

① Press (Index).
The index screen appears.

② Press MENU to display the menu.

③ Select (Print) with ▶, then press ●.

④ Select the desired printing method with ▲/▼, then press ●.



[Select]

Selects images and prints all the selected images.
Select the image you want to print with ▲/▼/◄/►, then press ● to display the ✓ mark. (Repeat this procedure to select other images.) Then, press MENU.

[DPOF image]

Prints all the images with a (Print order) mark regardless of the displayed image.

[All In This Folder]

Prints all the images in the folder.

⑤ Perform steps 2 and 3 of “Stage 3: Printing” (page 70).

Printing at a shop

You can take a “Memory Stick Duo” containing images shot with your camera to a photo printing service shop. As long as the shop supports photo printing services conforming to the DPOF, you can make a (Print order) mark on images in advance so that you do not need to reselect them when you print them out at the shop.

- You cannot print images stored in the internal memory at a print shop directly from the camera. Copy the images to a “Memory Stick Duo”, then take the “Memory Stick Duo” to the print shop.

What is DPOF?

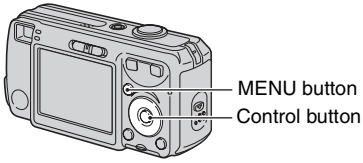
DPOF (Digital Print Order Format) is a function allowing you to make a (Print order) mark on images of “Memory Stick Duo” that you want to print out later.

- You can also print the images with the (Print order) mark using a printer that conforms to the DPOF (Digital Print Order Format) standard or using a PictBridge compliant printer.
- You cannot mark movies.
- When you mark images shot in [Multi Burst] mode, all the images are printed on one sheet divided into 16 panels.

When taking a “Memory Stick Duo” to a shop

- Consult your photo printing service shop as to what types of “Memory Stick Duo” they handle.
- If a “Memory Stick Duo” is not handled by your photo printing service shop, copy the images you want to print out to other medium such as a CD-R and take it to the shop.
- Be sure to take the Memory Stick Duo Adaptor with it.
- Before you take image data to a shop, always copy (back up) your data to a disk.
- You cannot set the number of prints.

Marking in single-image mode

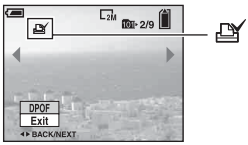


1 Display the image you want to print.

2 Press MENU to display the menu.

3 Select DPOF with ◄/►, then press ●.

A (Print order) mark is marked on the image.



4 To mark other images, display the desired image with ◄/►, then press ●.

To remove the mark in single-image mode

Press ● in step 3 or 4.

Marking in index mode

1 Display the index screen (→ *step 6 in "Read This First"*).

2 Press MENU to display the menu.

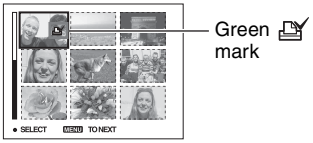
3 Select DPOF with ◄/►, then press ●.

4 Select [Select] with ▲/▼, then press ●.

- You cannot add a mark in [All In This Folder].

5 Select the image you want to mark with ▲/▼/◄/►, then press ●.

A green mark appears on the selected image.



6 Repeat step 5 to mark other images.

7 Press MENU.

8 Select [OK] with ►, then press ●.

The mark turns white.

To cancel, select [Cancel] in step 4 or select [Exit] in step 8, then press ●.

To remove the mark in index mode

Select the images from which you want to remove the mark in step 5, then press ●.

To remove all the marks in the folder

Select [All In This Folder] in step 4, then press ●. Select [Off], then press ●.

Troubleshooting

If you experience trouble with your camera, try the following solutions.

❶ Check the items on pages 76 to 86.
If a code such as "C/E:□□:□□" appears on the screen, see page 87.

❷ Remove batteries, and insert batteries again after about one minute, and turn on the power.

❸ Initialize the settings (page 49).

❹ Consult your Sony dealer or local authorized Sony service facility.

Please understand that you give your consent that the contents of the internal memory may be checked when you send your camera to be repaired.

Batteries and power

The battery remaining indicator is incorrect, or sufficient battery remaining indicator is displayed but the power runs out too quickly.

- This phenomenon occurs when you use the camera in an extremely hot or cold location (page 94).
- When using alkaline batteries/Oxy Nickel Primary Battery, the displayed time remaining may not be correctly indicated.
- The batteries are discharged. Install new batteries or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*).
- When using the Nickel-Metal Hydride batteries, the poles of batteries or the terminals of the battery cover are dirty so the batteries are not charged sufficiently. Clean them with a cotton swab, etc. (page 93).
- When using the Nickel-Metal Hydride batteries, the displayed time remaining differs from the current one due to the memory effect (page 93), etc. Fully discharge and then charge the batteries to correct the display.
- The batteries are dead. Replace them with new ones.

The batteries run down too quickly.

- You are using the camera in an extremely cold location (page 92).
- The batteries are dead. Replace them with new ones.
- When using the Nickel-Metal Hydride batteries, charge them sufficiently.

Cannot turn on the camera.

- Install the batteries correctly (→ *step 1 in "Read This First"*).
- Properly connect the AC Adaptor (not supplied).
- The batteries are discharged. Install new batteries or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*).
- The batteries are dead. Replace them with new ones.

The power turns off suddenly.

- If you do not operate the camera for about three minutes while the power is on, the camera turns off automatically to prevent wearing down the batteries. Turn on the camera again (→ *step 2 in "Read This First"*).
- The batteries are discharged. Install new batteries or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*).

Shooting still images/movies

The screen does not turn on even when the power is turned on.

- Turn on the screen (page 20).

Your camera cannot record images.

- Check the free capacity of the internal memory or "Memory Stick Duo" (page 21). If they are full, do one of the following:
 – Delete unnecessary images (→ *step 6 in "Read This First"*).
 – Change the "Memory Stick Duo".
- You are using the "Memory Stick Duo" with the write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position (page 90).
- You cannot record images while charging the flash.
- Set the mode switch to 📷 when shooting still images.
- Set the mode switch to 🎞 when shooting movies.
- The image size is set to [640(Fine)] when recording movies. Do one of the following:
 – Set the image size to other than [640(Fine)].
 – Insert a "Memory Stick PRO Duo" (pages 21 and 90).

The subject is not visible on the screen.

- Set the mode switch to an other position than ▶ (page 24).

Recording takes a long time.

- The NR slow shutter function is activated (page 17). This is not a malfunction.

The image is out of focus.

- The subject is too close. Ensure the lens is farther from the subject than the minimum shooting distance, approximately 12 cm (4 3/4 inches) (W) or 50 cm (19 3/4 inches) (T).
- 🏔 (Landscape mode) or 🌙 (Twilight mode) is selected in the Scene mode when shooting still images.
- Refer to "If the subject is out of focus" on page 30.

Zoom does not work.

- You cannot change the zoom scale when shooting movies.

Precision digital zoom does not function.

- Set [Digital Zoom] to [Precision] (page 43).
- This function cannot be used while shooting movies.

Smart zoom does not function.

- Set [Digital Zoom] to [Smart] (page 43).
- This function cannot be used when:
 – The image size is set to [6M] or [3:2].
 – Shooting in Multi Burst mode.
 – Shooting movies.

The flash does not work.

- The flash is set to (No flash) (→ *step 5 in "Read This First"*).
- You cannot use the flash when:
 – [Mode] (REC Mode) is set to [Burst] or [Multi Burst] (page 31).
 – (High sensitivity mode) or (Twilight mode) of the Scene mode, or is selected.
- Set the flash to (Forced flash) to shoot still images when (Snow mode), (Beach mode) or (Landscape mode) is selected in the Scene mode.

Indistinct, round blobs are visible on images when the flash is used.

- Strong light from the flash has been reflected from dust or airborne particles. This phenomenon is not a malfunction.

The date and time are recorded incorrectly.

- Set the correct date and time (→ *step 2 in "Read This First"*).

The F value and shutter speed flash when you press and hold the shutter button halfway down.

- The exposure is incorrect. Correct the exposure (page 28).

The image is too dark.

- You are shooting a subject with a light source behind the subject. Select the metering mode (→ *step 5 in "Read This First"*) or adjust the exposure (page 28).
- Turn on the screen (page 20).

The image is too bright.

- You are shooting a spotlighted subject in a dark location such as on a stage. Adjust the exposure (page 28).

The image colors are not correct.

- Picture Effect function is activated. Cancel the Picture Effect function (page 33).

Vertical streaks appear when you are shooting a very bright subject.

- The smear phenomenon is occurring. This phenomenon is not a malfunction.

Noise appears in the image when you view the screen in a dark place.

- The camera is attempting to increase the visibility of the screen by temporarily brightening the image under conditions of low illumination. There is no effect on the recorded image.

The eyes of the subject come out red.

- Set [Red Eye Reduction] in the (Setup) menu to [On] (page 44).
- Shoot the subject at a distance closer than the recommended shooting distance using the flash (→ *step 5 in "Read This First"*).
- Light the room and shoot the subject.

The image seen through the finder does not indicate the actual recordable range.

- The parallax phenomenon is occurring when the subject is close. To confirm the recordable range, use the LCD screen.

Dots appear and remain on the screen.

- This is not a malfunction. These dots are not recorded (page 5, → *"Read This First"*).

Cannot shoot images in succession.

- The internal memory or the "Memory Stick Duo" is full. Delete unnecessary images (→ *step 6 in "Read This First"*).
- The battery level is low. Install new batteries or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*).

Viewing images

Refer to "Computers" (page 81) in conjunction with the following items.

Your camera cannot play back images.

- Set the mode switch to ▶ (page 24).
- The folder/file name has been changed on your computer (page 61).
- When an image file has been processed by a computer or when the image file was recorded using a model other than that of your camera, playback on your camera is not guaranteed.
- The camera is in USB mode. Delete the USB connection (pages 59 and 67).

The image appears rough right after playback starts.

- The image may appear rough right after playback starts due to image processing. This is not a malfunction.

Color unevenness may appear during video playback.

- This is not a malfunction. Recorded images will not be affected.

Deleting/Editing images

Your camera cannot delete an image.

- Cancel the protection (page 37).
- You are using the "Memory Stick Duo" with the write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position (page 90).

You have deleted an image by mistake.

- Once you have deleted an image, you cannot restore it. We recommend that you protect images (page 36), or use the "Memory Stick Duo" with the write-protect switch and set the switch to the LOCK position (page 90) to prevent accidental erasure.

The resizing function does not work.

- You cannot resize movies and Multi Burst images.

You cannot display a DPOF (Print order) mark.

- You cannot display DPOF (Print order) marks on movies.

You cannot cut a movie.

- The movie is not long enough to cut (shorter than about two seconds).
- Cancel the protection (page 37).
- Still images cannot be cut.

Computers

You do not know if the OS of your computer is compatible with the camera.

- Check "Recommended computer environment" on page 53 for Windows, and page 66 for Macintosh.

Your computer does not recognize your camera.

- Turn on the camera (→ *step 2 in "Read This First"*).
- When the battery level is low, install new batteries or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*), or use the AC Adaptor (not supplied) (page 15).
- Use the supplied USB cable (page 56).
- Disconnect the USB cable from both the computer and the camera, and connect it again firmly. Make sure that "USB Mode Mass Storage" is displayed (page 56).
- Set [USB Connect] to [Mass Storage] in the (Setup) menu (page 50).
- Disconnect all equipment other than the camera, the keyboard and the mouse from the USB connectors of your computer.
- Connect the camera directly to your computer without passing through a USB hub or other device (page 56).
- The supplied software is not installed. Install the supplied software (page 54).
- Your computer does not properly recognize the device because you connected the camera and your computer with the USB cable before you installed the supplied software. Delete the erroneously recognized device from your computer, then install the supplied software (see the next item).

The "Removable disk" icon does not appear on the computer screen when you connect your computer to the camera.

- Follow the procedure below to install the USB driver again. The following procedure is for a Windows computer.

1 Right-click [My Computer] to display the menu, then click [Properties].
The "System Properties" screen appears.

2 Click [Hardware] → [Device Manager].
- For Windows Me, click the [Device Manager] tab.

The "Device Manager" appears.

3 Right-click [Sony DSC], then click [Uninstall] → [OK].
The device is deleted.

4 Install the supplied software (page 54).

You cannot copy images.

- Connect the camera and your computer correctly using the supplied USB cable (page 56).
- Follow the designated copy procedure for your OS (pages 56 and 66).
- When you shoot images with a "Memory Stick Duo" formatted by a computer, you may not be able to copy the images to a computer. Shoot using a "Memory Stick Duo" formatted by your camera (page 47).

After making a USB connection, the supplied software does not start automatically.

- Start up the “Media Check Tool” (page 62).
- Make the USB connection after the computer is turned on (page 56).

The image cannot be played back on a computer.

- When using the supplied software, refer to the Help.
- Consult the computer or software manufacturer.

The image and sound are interrupted by noise when you view a movie on a computer.

- You are playing back the movie directly from the internal memory or the “Memory Stick Duo”. Copy the movie to the hard disk of your computer, then play back the movie from the hard disk (page 55).

You cannot print an image.

- Check the printer settings.

Images once copied to a computer cannot be viewed on the camera.

- Copy them to a folder recognized by the camera, such as “101MSDCF” (page 60).
- Operate correctly (page 61).

Images are not displayed correctly with the supplied software.

- Make sure the folder of the images is registered in “Viewed folders”. If the images are not displayed even if the folder is registered in “Viewed folders”, update the database (page 65).

You cannot find images imported with the supplied software.

- Look in the “My Pictures” folder.
- If you have changed the default settings, refer to “Changing the “Folder to be imported”” on page 65 and check what folder is used for importing.

You want to change the “Folder to be imported”.

- Access the “Import Settings” screen to change “Folder to be imported”. You can specify a different folder after using the software to register it in “Viewed folders” (page 65).

All imported images are displayed on the calendar with the date January 1.

- The date has not been set on the camera. Set the date on the camera.

“Memory Stick Duo”

Cannot insert a “Memory Stick Duo”.

- Insert it in the correct direction (→ *step 3 in “Read This First”*).

Cannot record on a “Memory Stick Duo”.

- You are using the “Memory Stick Duo” with the write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position (page 90).
- The “Memory Stick Duo” is full. Delete unnecessary images (→ *step 6 in “Read This First”*).
- Insert a “Memory Stick PRO Duo” (page 21) when recording movies with the image size set to [640(Fine)].

Cannot format a “Memory Stick Duo”.

- You are using the “Memory Stick Duo” with the write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position (page 90).

You have formatted a “Memory Stick Duo” by mistake.

- All the data on the “Memory Stick Duo” is deleted by formatting. You cannot restore it. We recommend that you set the write-protect switch on the “Memory Stick Duo” to the LOCK position to prevent accidental erasure (page 90).

“Memory Stick PRO Duo” is not recognized by a computer with a “Memory Stick” slot.

- Check whether the computer and the card reader support “Memory Stick PRO Duo”. Users of computers and card readers made by companies other than Sony should contact those manufacturers.
- If “Memory Stick PRO Duo” is not supported, connect the camera to the computer (pages 55 to 56). The computer recognizes the “Memory Stick PRO Duo”.

Internal memory

The camera or your computer cannot play back the data in the internal memory.

- There is a “Memory Stick Duo” inserted in the camera. Remove it (→ *step 4 in “Read This First”*).

Cannot record images using the internal memory.

- There is a “Memory Stick Duo” inserted in the camera. Remove it (→ *step 4 in “Read This First”*).

The free capacity of the internal memory does not increase even when you copy the data stored in the internal memory to a "Memory Stick Duo".

- The data is not deleted after copying. Execute the [Format] command (page 46) to format the internal memory after copying the data.

Cannot copy the data stored in the internal memory to a "Memory Stick Duo".

- The "Memory Stick Duo" is full. Check the capacity (32 MB or more recommended).

Cannot copy the data on the "Memory Stick Duo" or the computer to the internal memory.

- Data on a "Memory Stick Duo" or a computer cannot be copied to the internal memory.

Printing

Also see "PictBridge compliant printer" (as follows) in conjunction with the following items.

Images are printed with both edges cut off.

- When you print an image shot with the image size set to [16:9(HDTV)], both edges of the image may be cut off.
- When printing images using your own printer, try canceling the trimming or borderless settings. Consult the printer manufacturer as to whether the printer provides these functions or not.
- When having images printed at a digital print shop, ask the shop whether they can print the images without cutting off both edges.

PictBridge compliant printer

A connection cannot be established.

- The camera cannot be connected directly to a printer that is not compliant with the PictBridge standard. Consult the printer manufacturer as to whether the printer is compliant with PictBridge or not.
- Check that the printer is turned on and can be connected to the camera.
- Set [USB Connect] to [PictBridge] in the (Setup) menu (page 50).
- Disconnect and connect the USB cable again. If an error message is indicated on the printer, refer to the operating instructions supplied with the printer.

Cannot print images.

- Check that the camera and the printer are properly connected using the USB cable.
- Turn on the printer. For further information, refer to the operating instructions supplied with the printer.
- If you select [Exit] during printing, images may not print. Disconnect and connect the USB cable again. If you still cannot print your images, disconnect the USB cable, turn the printer off and then on, then connect the USB cable again.
- Movies cannot be printed.
- Images shot using cameras other than this camera or images modified with a computer may not be printed.

Printing is canceled.

- You disconnected the USB cable before the (Do not disconnect USB cable) mark disappears.

Cannot insert the date or print images in the index mode.

- The printer does not provide these functions. Consult the printer manufacturer as to whether the printer provides these functions or not.
- The date may not be inserted in the index mode depending on the printer. Consult the printer manufacturer.

"---- -- --" is printed on the date-inserted part of the image.

- Images that do not have the recording data cannot be printed with the date inserted. Set [Date] to [Off] and print the image again (page 71).

Cannot select the print size.

- Consult the printer manufacturer as to whether the printer can provide the desired size.

Cannot print the image at the size selected.

- Disconnect the USB cable and reconnect it whenever you change the paper size after the printer has been connected to the camera.
- The print setting of the camera differs from that of the printer. Change the setting of either the camera (page 71) or the printer.

Cannot operate the camera after canceling printing.

- Wait for a while as the printer is carrying out the cancellation. It may take some time depending on the printer.

Others

Your camera does not work.

- Use the type of batteries you can use with this camera (page 92).
- The battery level is low (The indicator appears). Install new batteries or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*).

The power is on, but the camera does not work.

- The built-in microcomputer is not working properly. Remove the batteries, and then, after one minute, insert the batteries and turn on the camera.

Cannot identify an indicator on the screen.

- See page 16.

The lens gets fogged.

- Moisture condensation has occurred. Turn off the camera and leave it for about an hour before using it (page 94).

The camera becomes warm when you use it for a long time.

- This is not a malfunction.

The lens does not move when you turn off the camera.

- The batteries are discharged. Install new batteries or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*) or use the AC Adaptor (not supplied).

The Clock Set screen appears when you turn on the camera.

- Set the date and time again (→ *step 2 in "Read This First"*).

Warning indicators and messages

Self-diagnosis display

If a code starting with a letter of the alphabet appears, your camera has a self-diagnosis display. The last two digits (indicated by □□) will differ depending on the state of the camera.
If you are unable to solve the problem even after trying the following corrective actions a few times, contact your Sony dealer or local authorized Sony service facility.

C:32:□□

- There is trouble with your camera's hardware. Turn the power off and on again.

C:13:□□

- The camera cannot read or write data on the "Memory Stick Duo". Turn the power off and then on again and re-insert the "Memory Stick Duo" several times.
- The internal memory has experienced a format error, or an unformatted "Memory Stick Duo" is inserted. Format the internal memory or the "Memory Stick Duo" (pages 46 and 47).
- The inserted "Memory Stick Duo" cannot be used with your camera, or the data is damaged. Insert a new "Memory Stick Duo" (page 90).

E:61:□□

E:91:□□

E:92:□□

- A camera malfunction has occurred. Initialize the camera (page 49), then turn the power on again.

Messages

If the following messages appear, follow the instructions.

Turn the power off and on again

- A problem with the lens has caused an error.

⏍

- The battery level is low. Install new ones or charged Nickel-Metal Hydride batteries (→ *step 1 in "Read This First"*). Depending on the conditions of use or the type of battery, the indicator may flash even though there are still 5 to 10 minutes of remaining battery time left.

System error

- Turn the power off and then on again (→ *step 2 in "Read This First"*).

Internal memory error

- Turn the power off and then on again (→ *step 2 in "Read This First"*).

Reinsert the Memory Stick

- Insert the "Memory Stick Duo" correctly.
- The inserted "Memory Stick Duo" cannot be used in your camera (page 90).
- The "Memory Stick Duo" is damaged.
- The terminal section of the "Memory Stick Duo" is dirty.

Memory Stick type error

- The inserted "Memory Stick Duo" cannot be used in your camera (page 90).

Format error

- Format the media again (pages 46 and 47).

Memory Stick locked

- You are using the "Memory Stick Duo" with the write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position (page 90).

No memory space in internal memory
No memory space in Memory Stick

- Delete unnecessary images or files (→ *step 6 in "Read This First"*).

Read only memory

- Your camera cannot record or delete images on this "Memory Stick Duo".

No file

- No images have been recorded in the internal memory.

No file in this folder

- No images have been recorded in this folder.
- You did not operate correctly when copying images from your computer (page 61).

Folder error

- A folder with the same first three digit number already exists on the "Memory Stick Duo" (For example: 123MSDCF and 123ABCDE). Select another folder, or create a new folder (page 47).

Cannot create more folders

- The folder with a name beginning with "999" exists on the "Memory Stick Duo". You cannot create any folders if this is the case.

Cannot record

- The camera cannot record images in the selected folder. Select a different folder (page 48).

File error

- An error occurred while playing back the image.

File protect

- Release the protection (page 37).

Image size over

- You are playing back an image of a size that cannot be played back on your camera.

Cannot divide

- The movie is not long enough to be divided (shorter than about two seconds).
- The file is not a movie.

Invalid operation

- You are playing back a file that is not compatible with this camera.

(Vibration warning indicator)

- Camera shake may occur due to insufficient light. Use the flash, mount the camera on a tripod, or otherwise secure the camera in place.

640(Fine) is not available

- 640(Fine) size movies can be recorded only using a “Memory Stick PRO Duo”. Insert a “Memory Stick PRO Duo” or set the image size to a size other than [640(Fine)].

Enable printer to connect

- [USB Connect] is set to [PictBridge], however the camera is connected to a non-PictBridge compliant device. Check the device.
- The connection is not established. Disconnect and connect the USB cable again. If an error message is indicated on the printer, refer to the operating instructions supplied with the printer.

Connect to PictBridge device

- You tried to print images before the printer connection was established. Connect to a PictBridge compliant printer.

No printable image

- You tried to execute [DPOF image] without placing a DPOF (Print order) mark on the image(s).
- You tried to execute [All In This Folder] while a folder that holds only movies was selected. You cannot print movies.

Printer busy
Paper error
No Paper
Ink error
Low Ink
No Ink

- Check the printer.

Printer error

- Check the printer.
- Check if the image you want to print is corrupted.



- The data transmission to the printer may not be completed yet. Do not disconnect the USB cable.

Processing

- The printer is canceling the current print job. You cannot print until it is finished. This may take time, depending on the printer.

On the “Memory Stick”

A “Memory Stick” is a compact, portable IC recording medium. The types of “Memory Stick” that can be used with this camera are listed in the table below. However, proper operation cannot be guaranteed for all “Memory Stick” functions.

“Memory Stick” type	Recording/ Playback
Memory Stick (without MagicGate)	—
Memory Stick (with MagicGate)	—
Memory Stick Duo (without MagicGate)	○
Memory Stick Duo (with MagicGate)	○*1*2
MagicGate Memory Stick	—
MagicGate Memory Stick Duo	○*1
Memory Stick PRO	—
Memory Stick PRO Duo	○*1*2*3

*1 “Memory Stick Duo”, “MagicGate Memory Stick Duo” and “Memory Stick PRO Duo” are equipped with MagicGate functions. MagicGate is copyright protection technology that uses encryption technology. Data recording/playback that requires MagicGate functions cannot be performed with this camera.

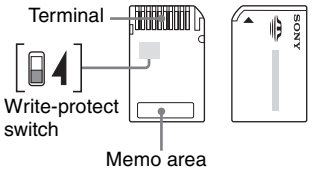
*2 Supports high-speed data transfer using a parallel interface.

*3 640(Fine) size movies can be recorded.

- A “Memory Stick Duo” formatted with a computer is not guaranteed to operate with this camera.
- Data read/write speeds differ depending on the combination of the “Memory Stick Duo” and the equipment used.

Notes on using a “Memory Stick Duo” (not supplied)

- You cannot record, edit or delete images if you slide the write-protect switch to LOCK with a fine-tipped object.



Some “Memory Stick Duo” cards do not have a write-protect switch. On “Memory Stick Duo” with this switch, the position and shape may vary depending on the “Memory Stick Duo”.

- Do not remove the “Memory Stick Duo” while reading or writing data.
- Data may be corrupted in the following cases:
 - When the “Memory Stick Duo” is removed or the camera is turned off during a read or write operation
 - When the “Memory Stick Duo” is used in locations subject to static electricity or electrical noise
- We recommend backing up important data.
- Do not press down hard when you write down on the memo area.
- Do not attach a label on the “Memory Stick Duo” itself nor on a Memory Stick Duo Adaptor.
- When you carry or store the “Memory Stick Duo”, put it in the case supplied with it.
- Do not touch the terminal section of the “Memory Stick Duo” with your hand or a metal object.
- Do not strike, bend or drop the “Memory Stick Duo”.
- Do not disassemble or modify the “Memory Stick Duo”.
- Do not expose the “Memory Stick Duo” to water.
- Do not leave the “Memory Stick Duo” within the reach of small children. They might accidentally swallow it.

- Do not use or store the “Memory Stick Duo” under the following conditions:
 - High temperature locations such as the hot interior of a car parked in direct sunlight
 - Locations exposed to direct sunlight
 - Humid locations or locations with corrosive substances present

Notes on using the Memory Stick Duo Adaptor (not supplied)

- To use a “Memory Stick Duo” with a “Memory Stick” compliant device, be sure to insert the “Memory Stick Duo” into a Memory Stick Duo Adaptor. If you insert a “Memory Stick Duo” into a “Memory Stick” compliant device without a Memory Stick Duo Adaptor, you might not be able to remove it from the device.
- When inserting a “Memory Stick Duo” into a Memory Stick Duo Adaptor, make sure the “Memory Stick Duo” is inserted facing in the correct direction, then insert it all the way in. Incorrect insertion may result in a malfunction.
- When using a “Memory Stick Duo” inserted into a Memory Stick Duo Adaptor with a “Memory Stick” compliant device, make sure that the Memory Stick Duo Adaptor is inserted facing the correct direction. Note that improper use may damage the equipment.
- Do not insert a Memory Stick Duo Adaptor into a “Memory Stick” compliant device without a “Memory Stick Duo” attached. Doing so may result in malfunction of the unit.

Note on using “Memory Stick PRO Duo” (not supplied)

“Memory Stick PRO Duo” with a capacity up to 2 GB have been confirmed to operate properly with this camera.

On the batteries

Batteries you can and cannot use with your camera

Battery type	supplied	supported	rechargeable
R6 (size AA) alkaline batteries	○	○	—
HR 15/51:HR6 (size AA) Nickel-Metal Hydride batteries*	—	○	○
ZR6 (size AA) Oxy Nickel Primary Battery	—	○	—
Manganese batteries**	—	—	—
Lithium batteries**	—	—	—
Ni-Cd batteries**	—	—	—

* NH-AA-2DB twin pack, etc.

** Operating performance cannot be ensured if voltage drops or other problems are caused by the nature of the battery.

On alkaline batteries/Oxy Nickel Primary Battery

- Alkaline batteries/Oxy Nickel Primary Battery are not rechargeable.
- Alkaline batteries/Oxy Nickel Primary Battery have a shorter life compared to the Nickel-Metal Hydride batteries. For this reason, the power may turn off even though the battery remaining indicator shows sufficient battery life remaining.
- Battery performance differs greatly depending on the manufacturer and the type of battery, and in some cases the battery life may be extremely short. This is especially true at low temperatures, and you may not be able to shoot at temperatures below 5°C (41°F).
- Do not mix new and old batteries.
- The battery remaining indicator may not display the correct information when using alkaline batteries/ Oxy Nickel Primary Battery.
- Due to characteristics of alkaline batteries/Oxy Nickel Primary Battery, there is a large difference between the available shooting time and the available playback time. For this reason, the camera may turn off with the lens portion extended when you switch the mode switch. In this case, replace the batteries with new ones. Using the Nickel-Metal Hydride batteries allows you to shoot for longer periods of time.

On Nickel-Metal Hydride batteries

- Do not peel off the external seals or damage the batteries. Never use batteries from which the seals have been partially or completely removed, or batteries that have been split in any way. These may cause leakage, explosion, or heat-up of the battery, and personal scald or injury may be caused. These may cause a malfunction of the battery charger.
- Do not carry or store the Nickel-Metal Hydride batteries with metallic objects. Since metallic objects may short the + and – ends, resulting in the risk of heating or fire.
- If the poles of the Nickel-Metal Hydride batteries are dirty, the batteries may not charge properly. Wipe them with a dry cloth, etc.
- At the time of purchase, or when the Nickel-Metal Hydride batteries have not been used for a long time, they may not full charge. This is typical of this type of battery, and is not a malfunction. If this happens, repeatedly using up the batteries fully, and then recharging them should correct the problem.
- If you recharge Nickel-Metal Hydride batteries before fully using up the existing charge, the low battery warning may be displayed sooner than expected. This is called the "memory effect."* If this problem occurs, charging the batteries only after using up the existing charge will correct it.

 * The "memory effect" – the situation in which the capacity of the battery is temporarily lowered.
- To use up the batteries completely, put the camera in the slide show mode (page 37) and leave it that way until the batteries are used up.
- Do not mix new and used batteries.
- Do not expose the battery to water. The battery is not water-resistant.

Do not leave the camera in the following places

- In an extremely hot place

 In places such as in a car parked in the sun, the camera body may become deformed and this may cause a malfunction.
- Under direct sunlight or near a heater

 The camera body may become discolored or deformed, and this may cause a malfunction.
- In a location subject to rocking vibration
- Near strong magnetic place
- In sandy or dusty places

 Be careful not to let sand or dust get into the camera. This may cause the camera to malfunction, and in some cases this malfunction cannot be repaired.

On cleaning

Cleaning the LCD screen

Wipe the screen surface with an LCD cleaning kit (not supplied) to remove fingerprints, dust, etc.

Cleaning the lens

Wipe the lens with a soft cloth to remove fingerprints, dust, etc.

Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface with a dry cloth. Do not use the following as they may damage the finish or the casing.

- Chemical products such as thinner, benzine, alcohol, disposable cloths, insect repellent, sunscreen or insecticide, etc.
- Do not touch the camera with the above on your hand.
- Do not leave the camera in contact with rubber or vinyl for a long time.

On operating temperatures

Your camera is designed for use under the temperatures between 0°C and 40°C (32°F and 104°F). (In case of alkaline batteries/Oxy Nickel Primary Battery, the temperatures are between 5°C and 40°C (41°F and 104°F).) Shooting in extremely cold or hot places that exceed this range is not recommended.

On moisture condensation

If the camera is brought directly from a cold to a warm location, moisture may condense inside or outside the camera. This moisture condensation may cause a malfunction of the camera.

Moisture condensation occurs easily when:

- The camera is brought from a cold location such as a ski slope into a warmly heated room.
- The camera is taken from an air-conditioned room or car interior to the hot outdoors, etc.

How to prevent moisture condensation

When bringing the camera from a cold place to a warm place, seal the camera in a plastic bag and allow it to adapt to conditions at the new location over about an hour.

If moisture condensation occurs

Turn off the camera and wait about an hour for the moisture to evaporate. Note that if you attempt to shoot with moisture remaining inside the lens, you will be unable to record clear images.

On the internal rechargeable battery

This camera has an internal rechargeable battery for maintaining the date and time and other settings regardless of whether the power is on or off.

This rechargeable battery is continually charged as long as you are using the camera. However, if you use the camera for only short periods, it discharges gradually, and if you do not use the camera at all for about one month it becomes completely discharged. In this case, be sure to charge this rechargeable battery before using the camera.

However, even if this rechargeable battery is not charged, you can still use the camera as long as you do not record the date and time.

Charging method

Insert batteries with enough capacity in the camera, or connect the camera to a wall outlet (wall socket) using the AC Adaptor (not supplied), and leave the camera for 24 hours or more with the power off.

Specifications

Camera

[System]

Image device 7.18 mm (1/2.5 type) color CCD, Primary color filter

Total pixel number of camera
Approx. 6 183 000 pixels

Effective pixel number of camera
Approx. 6 003 000 pixels

Lens Carl Zeiss Vario-Tessar
3× zoom lens
f = 5.1 – 15.3 mm (31 – 93 mm when converted to a 35 mm still camera)
F2.8 – 5.1
Automatic ND filter switching

Exposure control Automatic exposure, Scene Selection (7 modes)

White balance Automatic, Daylight, Cloudy, Fluorescent, Incandescent

File format (DCF compliant)
Still images: Exif Ver. 2.21 JPEG compliant, DPOF compatible
Movies: MPEG1 compliant (Monaural)

Recording media Internal Memory (32 MB)
"Memory Stick Duo"

Flash Recommended distance (ISO set to Auto): approx. 0.2 m to 7.0 m (7 7/8 inches to 275 5/8 inches) (W)/approx. 0.5 m to 3.8 m (19 3/4 inches to 149 5/8 inches) (T)

[Input and Output connectors]

USB jack mini-B

USB communication
Hi-Speed USB (USB 2.0 compliant)

[LCD screen]

LCD panel 5.1 cm (2.0 type) TFT drive

Total number of dots
84 960 (354×240) dots

[Power, general]

Power R6 (size AA) Alkaline batteries (2), 3 V
HR 15/51:HR6 (size AA) Nickel-Metal Hydride batteries (2, not supplied), 2.4 V
ZR6 (size AA) Oxy Nickel Primary Battery (2, not supplied), 3 V
AC-LS5K AC Adaptor (not supplied), 4.2 V

Power consumption
(during shooting with the LCD screen on)
1.0 W

Operating temperature
0°C to +40°C (+32°F to +104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions 99.9×52.0×36.8 mm (4×2 1/8×1 1/2 inches) (W/H/D, excluding protrusions)

Mass Approx. 181 g (6.4 oz) (including two batteries and wrist strap, etc.)

Microphone Electret condenser microphone

Speaker Dynamic speaker

Exif Print Compatible

PRINT Image Matching III
Compatible

PictBridge Compatible

Design and specifications are subject to change without notice.

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